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AN ANNOTATED CHECKLIST AND KEY TO THE SNAKES OF MEXICO

By

HOBART M. SMITH AND EDWARD H. TAYLOR

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The present work forms No. 187 of the *Bulletin* series.

Alexander Wetmore,
Secretary, Smithsonian Institution.

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AN ANNOTATED CHECKLIST AND KEY TO THE SNAKES OF MEXICO

By Hobart M. Smith and Edward H. Taylor

INTRODUCTION

The beginning of our active interest in the herpetology of Mexico dates from the summer of 1932, when a joint collecting trip introduced us to a region and fauna that have never ceased to stimulate us to further investigation. We have had the good fortune since then to spend a fair proportion of our time in the field or in the laboratory, pursuing our prime interest, although other circumstances have intermittently interrupted and delayed our progress.

Entering a rich field for exploration and study—one of the most productive in the world—we soon were not alone, and recent years have witnessed a growth in knowledge of Mexican herpetology probably paralleled by no other 12 years in the history of any other part of this continent. Tens of thousands of specimens are now available in museums where, 12 years ago, all the mainland Mexican specimens probably totaled less than 2,000. The task of keeping abreast of such rapidly expanding collections has been tremendous, and we cannot claim to have accomplished it completely. In fact, the present project has been completed only through the unusual opportunity for continuous work in the field and in the laboratory afforded by the Walter Rathbone Bacon Traveling Scholarship, granted by the Smithsonian Institution to the senior author for 3 years, from 1938 to 1941.

We have been able to study in detail the United States National Museum and the Taylor-Smith collections, but others have, for the most part, been less thoroughly examined. Regardless of the thoroughness with which all collections from Mexico now available in the United States might be studied—a task that would require more time than we can now devote—subsequent years would reveal much to augment and to modify our tentative list. Accordingly we submit the following with a full understanding of its temporary status and feel that even with its shortcomings the time is ripe for such a summary and that its availability will stimulate contributions that otherwise might not be forthcoming for many years.

Aside from the two collections mentioned, we have seen or otherwise checked all Mexican snakes (excluding those from Baja California) in the Museum of Vertebrate Zoology, California Academy of Sciences, Museum of Comparative Zoology, Chicago Academy of Sciences, Museum of Zoology of the University of Michigan, University of Utah Museum, Carnegie Museum, Brigham Young University, Chicago Natural History Museum, the personal collection of L. M. Klauber, San Diego Society of Natural History, and Stanford University Museum. A few specimens have been examined in the collections of the American Museum of Natural History and the Academy of Natural Sciences of Philadelphia. While we have not incorporated herein all data from these collections, since some are undergoing study by other students, much distributional data have been gleaned from them and used to augment those otherwise available. Thus the ranges and localities cited for many species are based upon unpublished records; all records, however, are based upon specimens examined by us or by other herpetologists, or upon literature records we consider reliable.

Though our survey of the literature has extended over several years, we may well have overlooked published accounts that would add to our statement of ranges or synonymies. For the benefit of possible future editions we shall appreciate advice of such omissions.

METHODS AND DEFINITIONS

Our object has been to list only species known with certainty from any part and possession of Mexico, yet a certain few have been added in spite of the lack of definite records; these exceptions, however, are so certainly to be found in Mexico that we have had no hesitancy in considering them a part of the Mexican fauna. They are marked with an asterisk preceding the name. Many others are known from nearby localities but for various reasons have been omitted. We have followed no particular rule in deciding which species we believe almost certainly occur in Mexico and which may not.

Regarding the use of parentheses for authors' names, despite the gaining popularity of another interpretation, we follow the International Rules of Zoological Nomenclature, which are clear on this point: "When a species is transferred to another than the original genus or the specific name is combined with any other generic name than that with which it was originally published, the name of the author of the specific name is retained in the notation but placed in parentheses" (Article 23). Obviously the rule implies that parentheses are to be used only to indicate the changes prescribed, not indiscriminately to indicate any change of combination. This procedure is not only very clearly indicated but in addition is of very useful, practical application. Use of parentheses to indicate changes other than those prescribed defeats the purpose of the rule and is contrary to its statement and implication. The vacillation shown by several herpetologists in its interpretation and use is rather surprising.

The synonymy includes a reference to the original description of the name used; references to original descriptions of all synonyms having type localities in Mexico; a reference to one or more illustrations of the species, if any are known to us; a citation of the first appearance of the combination we use; and references to any other works, especially recent, that we consider particularly pertinent. For each species, these references are arranged with all the different specific (or subspecific) names in chronological order; however, different combinations of one specific appellation follow the first citation of the name, even though recently originated combinations may be long antedated by other (different) names applied to the same species. If several references are included for a given combination, they are arranged chronologically. If portions of a name in a synonymy are given in brackets, this means that the name was not given in full in the article cited, the bracketed portion being omitted; if other references follow for that combination, it is not implied that in them the name is abbreviated. The statement of ranges is followed by a list of actual localities from which the species is known, if there are relatively few; or, if the species is a common one, at least all states in Mexico from which it is known are listed. Where localities are cited, confusion with state names is obviated by citation of the latter in italics or by enclosure of the locality names in parentheses or brackets. The generic synonymies include all names, as far as we can determine, that have as genotype a species occurring in Mexico or, in certain cases, nearby areas. In the generic synonymies are cited any synoptic treatments of recent date; the nature of the synopses—whether monographic, regional, or otherwise—is usually indicated. The arrangement of the families and subfamilies is systematic, but the genera are listed alphabetically within these groups. The species of each genus are also listed alphabetically. The genera are distinguished in one key, in which appear page references to the separate keys to species of individual genera. Since the species are arranged in alphabetical order for each genus, page references are not given in the species keys.

The extraordinarily large number of forms listed (469) may lead some authorities to think that we have recognized an unduly large proportion of invalid names. We take recourse in the fact that we are frequently merely stating an opinion, open to criticism and correction if facts so indicate. In general we tend to preserve names for recognizable forms until there is adequate proof that they are variants, aberrations, or something else as the case may indicate. We prefer to use specific names for populations not known to intergrade with others; however, because of paucity of specimens from many areas we have had to use our judgment as to whether intergradation is indicated; that probably we have been inconsistent in this respect is consistent with all similar arbitrary procedures that must be based upon insufficient data.

We take as a species any population isolated reproductively, geographically, morphologically (lacking other data), or (rare cases) by total ensemble of characters, that has attained an evolutionary stage in which at least one recognizable character always distinguishes that population from all others. With one or two exceptions a subspecies is the same as a species; the exception may be only that reproductive isolation is incomplete, or only that a lesser percent (as little as 75) of its population is recognizably different; subspecies of the latter type may be either completely or incompletely isolated from the nearest related form.

The attainment of a certain degree of recognizability (i. e., number of recognizable differences), involving a variable interpretation in different groups of animals (including genera), does not as a rule figure in our definition of species and subspecies; this is consistent with the functional concepts of these categories, interpreted as expressions of the *existence* of differences, not *degree* of difference. Thus two species may well be distinguished by fewer characters than two subspecies.

The expression of degree of difference—a measure of similarity—is reserved for the genus. Between the generic and specific categories may and usually do occur wide possible ranges in degree of distinctness; some species (or subspecies) may show a minimum distinctness, while others show many differences from the nearest relatives. How many differences between species of a single genus can be accepted as commensurate with the definition of the latter category must vary with the inclination of the investigator, the trend of the times, and the nature of the individual problem and of the group; no standardization has yet become evident. We have therefore not been consistent in our interpretation of the genus, nor do we believe consistency is to be expected under present conditions.

The term "form" we use only as a convenient and brief substitute for either of the terms species or subspecies, or for both. Reference to the "forms" of a genus or species involves all the lesser, taxonomically recognizable entities, whether species or subspecies; if any of the latter are recognized, each is considered a separate "form," as is each species lacking subspecies.

The term "race" we use only as an exact substitute for subspecies.

A "group," as we understand it, is a term including two or more *related* forms; it may be used in reference to, for example, an assemblage of subspecies of a single species, or to all the subspecies of a single species, or to a group of species (and their races) of a single genus, or to all the species of a single genus. Assemblages of related genera we prefer to call "sections." The essential value of the term "group" is in the implication of relationship.

The application of the "homonym rule" of the International Code of Zoological Nomenclature to the taxonomy of forms included in this checklist has met with some difficulty, owing to the loose statement of the rule and the varied interpretation of it by various taxonomists. The difference of opinion concerns the application of the rule to secondary and primary homonyms. At this point it may be well to define primary homonyms as scientific names which, as first proposed, are identical both in generic and specific name with another, also in its original form. Secondary homonyms are scientific names that, in their form as originally proposed, are not the same as any other name in its original form; they become homonyms only by transference of the name to another genus, or by transference of another, identical specific name of another genus to that which contains the new name. Primary homonyms are created only when both generic and specific (or subspecific) names are identical in the original combinations of two or more scientific names. For example, *Conophis lineatus similis* Smith and *Conophis pulcher similis* Bocourt are primary homonyms. But *Stenorhina quinquelineata* Jan (a new name) is a secondary homonym of *Stenorhina quinquelineata* (Hallowell), since the latter is not in its original form, having been transferred from its original genus (*Microphis*). There are several grades of secondary homonyms, but among them are not included strictly implied homonyms (tertiary homonyms), which have no significance in the present problem. Tertiary homonyms are created upon combination of genera or species, without citation of the species or synonyms involved by the combination; these homonyms are clearly implied, and while they have some standing in other taxonomic problems, here they fortunately have none.

In the past we have interpreted the "homonym rule" to require permanent suppression of secondary as well as primary homonyms, but this view has been abandoned in favor of its alternative, that only primary homonyms are permanently suppressed. Our decision is based upon the realization that several undesirable results would follow official recognition of suppression of secondary homonyms; we are convinced, moreover, that the intention of the rules, as stated, was application only to primary homonyms. As an example of one undesirable result, careful examination would be required, not so much of the best and most authoritative works, but rather of the poorest and least known portion of the literature (including educational and semipopular works, in which the nomenclature is often extremely faulty), in order to determine the proper taxonomy for any group of animals; it is quite certain that no means could be found to define the kind of works it would be necessary and desirable to consider, and those which (for this purpose) could be ignored. A further result would be the sanction of activities of the professional "name-giver," for, as pointed out in the Bulletin of Zoological Nomenclature (part 3, p. 25), it is quite out of the question for a body of zoologists sitting as an International Commission to pass judgment upon the professional conduct of a particular zoologist, and upon that decision to reject or accept his work. Were it possible to render decisions upon these two points—quality of publications and qualification of author—permanent suppression of secondary homonyms would be a desirable rule, but under existing circumstances it seems entirely impractical.

The present interpretation of the "homonym rule" requires a few changes in current nomenclature and affects the names of nine forms in this checklist: *Arizona elegans elegans*, *A. e. occidentalis*, *Drymarchon corais melanurus*, *Elaphe subocularis*, *Manolepis putnami*, *Masticophis taeniatus ornatus*, *M. flagellum lineatus*, *Rhadinaea vittata*, and *Agkistrodon bilineatus*. Were secondary homonyms suppressed permanently these forms would be known as follows, respectively: *Arizona arizonae arizonae*, *Arizona arizonae occidentalis*, *Drymarchon corais melanocercus*, *Elaphe sclerotica*, *Manolepis nasutus*, *Masticophis taeniatus girardi*, *M. flagellum striolatus*, *Rhadinaea fulvivittis*, and *Agkistrodon* (no name).

ZOOGEOGRAPHICAL DISCUSSION

The occurrence of such a large number of forms in Mexico may be explained by the extremely rugged and divergent topography of the country, reflected not only in a diverse snake fauna but in an equally remarkable aggregation of species in many, if not all, other groups of plants and animals. That Mexico is situated on the border between temperate and tropical zones, rather than completely in either of them, is equally as significant as its topography. Likewise, because of its position, Mexico has acted as a very important faunal paleopeninsula, and to a lesser extent as a faunal neopeninsula; actively throughout most of Tertiary and to a lesser extent in relatively recent times it has been a cul-de-sac for southward-migrating species.[1] In view of these facts it is not too surprising that Mexico has, probably, a richer fauna than any other area of the globe of equal size. However, observing the very considerable increase during the past few years in number of forms known from the country, we can guess that still many more species and geographic races remain to be discovered and defined. It is not impossible that at some time the total number of snake populations in Mexico recognized by name may reach 600.

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[1] Schmidt, Karl P. Corollary and commentary for climate and evolution, Amer. Midl. Nat., vol. 30, 1943, pp. 241–253.

At the present time 79 genera are known in Mexico. Fourteen of these are completely restricted to that country:

Adelophis
Chersodromus
Conopsis
Exelencophis
Geagras
Geatractus
Manolepis
Procinura
Pseudoficimia
Pseudoleptodeira
Rhadinella
Symphimus
Sympholis
Toluca

It may be observed that all these genera occur on the North American side of the Isthmus of Tehuantepec; none extend into the Central American side of the Isthmus. All the genera are rather small: 10 are monotypic, 3 contain 2 species each, and 1 contains 6 forms (species and subspecies). All the genera are colubrids, and as such are probably of more recent origin than some of the more widespread genera of the Pythonidae, Boidae, Typhlopidae, and Leptotyphlopidae. The most ancient subfamily of the colubrids, the Sibynophiinae, is not represented. On the other hand, there is only one representative of the presumably most recent subfamily, the Natricinae, of the colubrids, and none of the more highly modified (recent?) families Elapidae, Hydrophidae, and Crotalidae. Seven of the genera (*Chersodromus*, *Exelencophis*, *Geagras*, *Geatractus*, *Manolepis*, *Pseudoleptodeira*, *Rhadinella*) appear to be of southern origin and affinity; all these are coastal or foothill genera. The relationships of *Sympholis* and *Symphimus* are dubious. The remainder, all plateau genera, appear to be at least of northern affinity, if not of northern origin also.

Five other genera are practically endemic, and curiously enough, all of them are restricted to northern (generally northwestern) Mexico and southwestern United States. They may be considered as adaptations to the semiarid environment of this region and accordingly do not extend far onto the plateau of Mexico or far northward into the United States. They are:

Lichanura
Chilomeniscus
Chionactis
Gyalopion
Micruroides

One genus is monotypic, one is known by four forms, while each of the other three contains three forms. All these may be considered rather ancient in their own subfamilies or in comparison with other families, and for this reason the slightly higher average number of forms per genus, as compared with the endemic genera, is of interest.

Eleven other genera, not known to occur south of Mexico, are more widely distributed in the United States:

Arizona
Coluber
Diadophis
Heterodon
Hypsiglena
Opheodrys
Phyllorhynchus
Rhinocheilus
Sonora
Natrix
Sistrurus

Three are coast-to-coast genera (*Coluber*, *Diadophis*, *Natrix*), 3 are central and eastern (*Heterodon*, *Opheodrys*, *Sistrurus*), and 5 are central and western. Most of the central and western genera are of southern origin, while the others are to be considered northern. The number of forms per genus ranges from 2 to about 25, and averages 10, in the Americas; 3 genera (*Coluber*, *Opheodrys*, *Natrix*), occur in the Eastern Hemisphere, where they are represented by about 1, 4, and 80 forms, respectively.

Nineteen Mexican genera occur both north and south of the country. Four of these extend only a very short distance southward (Guatemala):

Pituophis
Salvadora
Storeria
Agkistrodon

The other 15, in addition to occurring northward in the United States, extend into South America or a considerable distance into Central America. They are:

Leptotyphlops
Coniophanes
Drymarchon
Drymobius
Elaphe
Ficimia
Lampropeltis
Leptodeira
Masticophis
Rhadinaea
Tantilla
Trimorphodon
Thamnophis
Micrurus
Crotalus

The forms per genus, in the Americas, vary from 5 to 62 and average about 21. Three genera occur in the Old World: *Leptotyphlops*, *Elaphe*, and *Agkistrodon*. The first belongs to an extremely ancient group and in at least this hemisphere centers in South and Central America. The other two belong to very recent groups and in the New World do not extend south of Costa Rica.

The bulk of the genera (30) occur outside of Mexico only toward the south. Five extend only through Central America or part of it:

Loxocemus
Adelphicos
Amastridium
Conophis
Tantillita

All the others are more or less widely distributed in South America:

Typhlops
Constrictor
Ungaliophis
Scaphiodontophis
Clelia
Dendrophidion
Dipsas
Dryadophis
Enulius
Geophis
Imantodes
Leptophis
Ninia
Oxybelis
Oxyrhopus
Pliocercus
Pseustes
Sibon
Spilotes
Stenorrhina
Tretanorhinus
Tropidodipsas
Xenodon
Pelamis
Bothrops

Those that are restricted to Central America are relatively small genera (2, 6, 2, 7, 2 species, respectively). Those that reach South America vary in species content from 1 to about 51, average 13. Only 1 genus, of a very ancient group (*Typhlops*), occurs in the Old World.

It is noteworthy that all the Mexican genera that occur in the Eastern Hemisphere are either very ancient (*Typhlops* and *Leptotyphlops*, presumably among the most primitive of all living snake genera) or are essentially Holarctic and do not extend south of Costa Rica; except for the first two, they are either relatively recent or generalized genera.

The highest average number of species per genus is attained by those genera that occur both north and south of Mexico; however, this may well be exceeded by those extending only southward (the largest group) as the South American species become better known.

The above discussion may be summarized as follows:

Genera	*Number*	*Average Number of Species*
Endemic (Nearctic 7, Neotropical 7)	14	1.6
Practically endemic (northwestern desert only)	5	3
Mexico and northward only (Nearctic or Holarctic)	11	10
Mexico and southward only (Neotropical or world-wide)	30	13
Mexico and northward and southward (Neotropical 8, Nearctic 10, world-wide 1)	19	21

Of more geographic significance than the distribution within political boundaries is the correlation within the major biogeographic areas. Thus segregated, 35 genera can be considered purely Neotropical, having no or very slight extensions into the Nearctic realm. Likewise, 18 are purely Nearctic, while 25 overlap the 2 realms to a notable degree.

Of the 25 overlapping genera, 12 (*Leptotyphlops*, *Constrictor*, *Coniophanes*, *Drymarchon*, *Drymobius*, *Ficimia*, *Geophis*, *Leptodeira*, *Oxybelis*, *Rhadinaea*, *Trimorphodon*, and *Micrurus*) are very clearly primarily Neotropical, having by far the greatest bulk of their range south of Nearctic borders. It is remarkable that only 6 genera (*Opheodrys*, *Pituophis*, *Salvadora*, *Natrix*, *Storeria*, *Agkistrodon*) represent the Nearctic in the same way—i. e., have their range largely north of Neotropical boundaries. The remaining 7 genera (*Elaphe*, *Hypsiglena*, *Lampropeltis*, *Masticophis*, *Tantilla*, *Thamnophis*, *Crotalus*) overlap both realms very broadly. The latter group can be broken down still further, however, into genera having a preponderance of Nearctic species (6) and a single genus (*Tantilla*) having more forms in the Neotropical realm. Thus only 31 genera in Mexico are clearly Nearctic in origin or distribution (or both), as against 47 that are Neotropical. The conclusion that the fauna of Mexico has been varied to a greater degree by resurgent southern genera than by genera that

Correlation of Generic Ranges and Zoogeographical Realms

Virtually or actually restricted to Nearctic	Virtually or actually restricted to Neotropical	Broadly overlapping both realms		
		Predominantly Nearctic	Predominantly Neotropical	More or less equally
Lichanura	Typhlops	Opheodrys	Leptotyphlops	Elaphe*
Arizona	Ungaliophis	Pituophis	Constrictor	Hypsiglena*
Chilomeniscus	Loxocemus	Salvadora	Coniophanes	Lampropeltis*
Chionactis	Scaphiodontophis	Natrix	Drymarchon	Masticophis*
Coluber	Adelphicos	Storeria	Drymobius	Tantilla†
Conopsis	Amastridium	Agkistrodon	Ficimia	Thamnophis*
Diadophis	Chersodromus		Geophis	Crotalus*
Gyalopion	Clelia		Leptodeira	
Heterodon	Conophis		Oxybelis	
Phyllorhynchus	Dendrophidion		Rhadinaea	
Procinura	Dipsas		Trimorphodon	
Pseudoficimia	Dryadophis		Micrurus	
Rhinocheilus	Enulius			
Sonora	Exelencophis			
Toluca	Geagras			
Adelophis	Geatractus			
Micruroides	Imantodes			
Sistrurus	Leptophis			
	Manolepis			
	Ninia			
	Oxyrhopus			
	Pliocercus			
	Pseudoleptodeira			
	Pseustes			
	Rhadinella			
	Sibon			
	Spilotes			
	Stenorrhina			
	Symphimus			
	Sympholis			
	Tantillita			
	Tretanorhinus			
	Tropidodipsas			
	Xenodon			
	Pelamis			
	Bothrops			

*Species most numerous in Nearctic.
†Species slightly more numerous in Neotropical.

have funneled into it from the north is a possibility. Since endemism is represented equally in both Nearctic and Neotropical groups the total picture is not notably changed by inclusion of restricted genera. South America, or Central America, must be considered a center of dispersal of major importance at least for reptiles; in direct competition with the Nearctic center of dispersal in Mexico, it has produced a notably greater effect. That South America could completely replace North America as a major dispersal center in the epochs to come is not unreasonable. It is well to bear in mind, in this connection, that snakes are apparently not a decadent but definitely an expanding group. It is clear that the oldest ("South American") paleofauna is the one most involved in the resurgence of southern groups. The "Old Northern" is involved chiefly in the essentially Nearctic group of genera, while the newer "Holarctic" is not at all involved in Mexican snakes. We do not believe it feasible at the present time, however, to attempt an exact identification of all the snake genera of Mexico as "South American" or "Old Northern."

Had the "South American" and "Old Northern" faunas retained their distributional relationship even in recent periods, the realm now distinguished as Neotropical would be composed exclusively of derivatives of "South American" elements, and the Nearctic would consist of two subdivisions corresponding to the "Old Northern" and "Holarctic" elements. The establishment of secondary centers of dispersal, however, resulted in such an overlap of the derivatives of three paleofaunas that the zoogeographic realms we now recognize as corresponding with present distributional facts unfortunately have little correlation with paleozoogeography.

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Class REPTILIA Laurenti

Reptilia Laurenti, Specimen medicum exhibens synopsin reptilium . . ., 1768, p. 19.

Order SQUAMATA Oppel

Squamata Oppel, Die Ordnungen, Familien und Gattungen der Reptilien . . ., 1811, p. 14.

Suborder SERPENTES Linnaeus

Serpentes Linnaeus, Systema naturae, ed. 10, vol. 1, 1758, p. 214.

KEY TO THE MEXICAN GENERA

1. Scales of uniform size about body, midventral scales not enlarged; scale rows 14, 18, or 20 (possibly 24 in 1 species) around body ---- 2
Ventral scales larger than others, transversely elongate; scale rows variable, 13 to 79 ---- 3

2. Ocular reaching lip; scale rows 14 around body ---- **Leptotyphlops** (p. 20)
Ocular separated from lip by labial scales and sometimes a subocular as well; scale rows 18 or 20 (possibly 24) ---- **Typhlops** (p. 19)

3. Tail strongly flattened laterally for swimming; sea snakes ---- **Pelamis** (p. 176)
Tail not strongly flattened, more or less rounded ---- 4

4. A deep pit between nostril and eye ---- 5
No pit between nostril and eye ---- 8

5. A rattle or large horny button on tail ---- 6
No rattle or button on tail ---- 7

6. Top of head covered with nine large plates ---- **Sistrurus** (p. 199)
At least posterior (parietal) head scales split into smaller scales; usually numerous small scales on top of head ---- **Crotalus** (p. 184)

7. Top of head covered with nine large plates ---- **Agkistrodon** (p. 177)
At least posterior (parietal) head scales split into smaller scales; usually numerous small scales on top of head ---- **Bothrops** (p. 179)

8. Rostral enlarged, turned up in front, keeled above; usually an azygous scale following rostral, sometimes other small scales ---- **Heterodon** (p. 71)
Rostral not enlarged or, if so, not keeled above ---- 9

9. Numerous small scales bordering rostral posteriorly; no enlarged plates on top of head; all dorsal head scales uniformly small ---- **Constrictor** (p. 25)
Two to five large plates bordering rostral posteriorly, between labials; at least anterior scales on top of head enlarged ---- 10

10. One or two pairs of enlarged, elongate chin shields on lower jaw, with which at least the four anterior infralabials are in contact ---- 13
No enlarged scales between anterior infralabials, or in one genus one small anterior pair in contact with less than four infralabials on each side ---- 11

11. Rostral enlarged, prominent, somewhat turned up; a pair of large prefrontals, in contact on each side with supralabials ---- **Loxocemus** (p. 27)
Rostral not enlarged; no typical prefrontals ---- 12

12. Two large, median scales on top of head behind rostral, one following the other ---- **Ungaliophis** (p. 26)
No enlarged, median head scales ---- **Lichanura** (p. 25)

13. Number of scale rows in front of anus equal to or only one less than number at middle of body ---------- 14
Number of scale rows in front of anus at least two less than number at midbody ---------- 60

14. Scale rows 13 ---------- 15
Scale rows 15 or more ---------- 17

15. Internasals fused with anterior section of nasal; rostral enlarged; snout produced beyond lower jaw, sharp-edged, rounded in dorsal profile, pointed in lateral profile ---------- **Chilomeniscus** (p. 34)
Internasals not fused with anterior section of nasal; snout not produced forward, shovellike ---------- 16

16. Body with black rings; 2 anterior temporals; ventrals 168; size larger ---------- **Dipsas**[2] (p. 49)
Body uniform brown above; 1 anterior temporal; ventrals 126–128. **Sonora**[3] (p. 126)

17. Rostral in contact with frontal ---------- **Ficimia** (p. 62)
Rostral separated from frontal ---------- 18

18. Scales in 19 rows ---------- 19
Scales in 15 or 17 rows ---------- 20

19. Internasals fused with prefrontals; scales smooth ---------- **Sympholis** (p. 134)
Internasals distinct from prefrontals; scales keeled ---------- **Ninia** (p. 99)

20. Rostral in contact with prefontals ---------- **Gyalopion** (p. 70)
Rostral separated from prefrontals ---------- 21

21. Anal single ---------- 22
Anal divided ---------- 32

22. Prefrontals fused to form a single, large scale; black above with a yellow nuchal collar; scales feebly keeled; no preoculars ---------- **Chersodromus** (p. 33)
Prefrontals separate; color not as described; scales keeled or not; preoculars present or not ---------- 23

23. Scale rows 15 ---------- 26
Scale rows 17 ---------- 24

24. No preocular; eye small; small, burrowing snakes with pointed head. **Geophis** (part) (p. 65)
One or two preoculars; size larger; eye larger; head not reduced for burrowing ---------- 25

25. Two superimposed anterior temporals ---------- **Clelia** (p. 35)
One anterior temporal ---------- **Tropidodipsas** (part) (p. 149)

26. No anterior temporal and no preocular; small, burrowing snakes with pointed heads ---------- **Geophis** (part) (p. 65)
An anterior temporal present or, if lacking, preoculars present ---------- 27

27. Five supralabials; two preoculars; no loreal; anterior temporal present or absent ---------- **Adelophis** (p. 153)
Six or more supralabials; preoculars variable; loreal variable; temporals normal ---------- 28

28. Nasal entire; vertebral scales not enlarged; no azygous scale behind mental; presumably no loreal (not certain) ---------- **Exelencophis** (p. 62)
Nasal divided or, if entire, either the vertebral scales are enlarged or there is an azygous scale behind mental; loreal present ---------- 29

29. Six upper labials; dorsal scales with two apical pits ---------- **Geatractus** (p. 64)
Seven or more upper labials; dorsal scales without pits ---------- 30

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[2] *Dipsas gaigeae* (Oliver) only.

[3] *Sonora taylori* (Boulenger) only.

30. Vertebral scale row at least somewhat enlarged, or an azygous scale bordering mental posteriorly ---------- 31

Vertebral scale row not at all enlarged; no azygous scale following mental ---------- **Tropidodipsas** (part) (p. 149)

31. Vertebral scales strongly enlarged; *and* no preocular ---------- **Sibon** (p. 126)

Vertebral scales scarcely enlarged, *or* one or more preoculars (or both). **Dipsas** (part) (p. 49)

32. Scales keeled over most of body ---------- **Storeria** (p. 156)

Scales smooth, except perhaps on tail and near vent on body ---------- 33

33. Scale rows 15 ---------- 46

Scale rows 17 ---------- 34

34. Internasals fused with anterior section of nasal ---------- **Stenorrhina** (p. 132)

Internasals distinct from nasal ---------- 35

35. Two or three preoculars (including suboculars, if any) ---------- 36

One preocular ---------- 38

36. Pattern in rings of red, black, and sometimes yellow; no scale pits. **Pliocercus** (p. 109)

Pattern in stripes, uniform or with only a light neck ring ---------- 37

37. Striped (sometimes not strongly); no scale pits ---------- **Rhadinaea** (part) (p. 115)

No stripes whatever, either light or dark; uniform dark above, except for a light nuchal ring (absent in only one race); pits present. **Diadophis** (part) (p. 46)

38. Uniform dark above except for a light nuchal collar; uniform light (orange) below; no scale pits; eight supralabials ---------- **Rhadinella** (p. 119)

Not colored as described; pits present or not; labials variable ---------- 39

39. Black above and below, top of head lighter; no pits ---------- **Amastridium** (p. 31)

Color not as described; pits present or not ---------- 40

40. Large dorsal spots; snout pointed; no loreal; prefrontals and internasals distinct ---------- **Pseudoficimia** (p. 112)

No large spots on dorsal surface or, if present, prefrontals fused with internasals on each side; snout pointed or not; loreal variable ---------- 41

41. Red, black, and yellow rings about all or part of body and tail, the remainder of which (if not all ringed) nearly unicolor. **Scaphiodontophis** (p. 28)

Color not as described ---------- 42

42. Nine upper labials; a pair of black dots on each ventral, near middle anteriorly but diverging laterally toward posterior part of body and tail ---------- **Scaphiodontophis** (part) (p. 28)

Eight or fewer labials; venter not marked as described ---------- 43

43. Striped; no scale pits; seven or eight supralabials; a loreal; nasal completely divided; temporals 1–1 or 1–2; snout normal; head flattened. **Rhadinaea** (part) (p. 115)

No stripes, or only a dark line on vertebral scale row; scale pits present; six or seven supralabials; loreal sometimes absent; nasal divided or not; temporals 1–2; snout pointed or produced; head rounded ---------- 44

44. Usually no preocular; nasal completely divided; tail long, with 85 or more subcaudals; ventrals 174 or more ---------- **Enulius** (p. 61)

A preocular; nasal not or partly divided; tail short, with not over 50 (46 maximum known) subcaudals; ventrals 150 or less (145 known maximum) ---------- 45

45. Posterior maxillary teeth not enlarged or grooved ---------- **Conopsis** (p. 45)

Posterior maxillary teeth enlarged and deeply grooved ---------- **Toluca** (p. 143)

46. Internasal fused with anterior section of nasal; a median light stripe, bordered laterally by darker lines; body elongate--- **Symphimus** (p. 133)
Internasals normal--- 47

47. No preocular; anterior chin shields much enlarged; no posterior chin shields--- **Adelphicos** (p. 30)
One or two preoculars; anterior chin shields, if separate, not greatly enlarged; posterior chin shields generally distinct--- 48

48. No loreal--- 49
A loreal--- 53

49. Snout much depressed, strongly projecting; six supralabials; one postocular; temporals 1–2--- **Geagras** (p. 64)
Snout normal; six or seven supralabials, but if six, the temporals 1–1; postoculars one or two--- 50

50. Pattern of red, black, and usually yellow rings; coral snakes--- 51
Pattern not in rings--- 52

51. A red instead of a black ring following yellow nuchal ring; maxilla with 2 teeth, a hollow fang followed by a smaller solid tooth; black rings 9 to 14 on body and tail, those on body almost as broad as red rings and about twice as broad as yellow rings; red rings unmarked with black; snout all black--- **Micruroides** (p. 169)
A black instead of a red ring following yellow nuchal or parietal ring; maxilla with a single, hollow fang; pattern not as described. **Micrurus** (p. 169)

52. Posterior maxillary teeth not grooved, not or scarcely enlarged; uniform dark above, the color sharply differentiated from a light belly; a broken, light band about neck may be evident; ventrals 116 to 125; caudals 28 to 47--- **Tantillita** (p 142)
Posterior maxillary teeth deeply grooved, enlarged; color not as described--- **Tantilla** (p. 134)

53. A large, azygous scale following mental--- **Dipsas**[4] (part) (p. 49)
No azygous scale following mental--- 54

54. Caudal scales strongly tubercular; pattern of red, black, and yellow rings--- **Procinura** (p. 111)
Caudal scales not tuberculate; pattern as described or not--- 55

55. Supralabials 7–7 or less--- 56
Supralabials 7–8 or more--- 59

56. Two preoculars; dark above, with a light neck ring--- **Diadophis** (part) (p. 46)
One preocular; no light neck collar or, if present, body not uniform dark above--- 57

57. Posterior chin shields about equal to anterior; size larger; caudals 60 or more--- **Opheodrys** (part) (p. 101)
Posterior chin shields less than half size of anterior; size small, not exceeding 300 mm. (12 inches); caudals 59 or less--- 58

58. Abdomen rounded; snout normal, not spadelike; no nasal valve. **Sonora** (p. 126)
Abdomen angled; snout flattened, spadelike; a nasal valve present. **Chionactis** (p. 35)

59. Head enlarged, much broader than the very slender neck; body and tail very elongate, with over 200 ventrals and over 100 caudals. **Imantodes** (p. 75)
Head not enlarged, little broader than neck; body and tail normal, with less than 175 ventrals and less than 100 caudals--- **Coluber**[5] (p. 37)

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[4] *Dipsas sanniolus* only.

[5] *Coluber oaxaca* (Jan) only.

60. Scales keeled ---------- 61
    Scales smooth ---------- 73
61. Anal divided ---------- 62
    Anal single ---------- 68
62. Maximum scale row number, near middle of body, 17 or less ---------- 63
    Maximum scale row number, near middle of body, 19 or more ---------- 66
63. Scale rows 15 at middle, 11 at posterior end of body ----- **Leptophis** (p. 90)
    Scale rows 17 at middle of body, 13 or 15 posteriorly ---------- 64
64. No loreal; prefrontal in contact with two or three labials; head elongate, tapering ---------- **Oxybelis** (p. 101)
    A loreal; prefrontal not in contact with labials; head not notably elongate ---------- 65
65. One anterior temporal; seven supralabials ---------- **Opheodrys**[6] (p. 101)
    Two anterior temporals; usually nine supralabials ----- **Drymobius** (p. 56)
66. Nasal scales enlarged, on top of snout, in contact or narrowly separated; scales in 21–17 rows; no pits on dorsal scales ----- **Tretanorhinus** (p. 144)
    Nasal scales normal, not in contact; apical pits present on dorsal scales; if scale rows 21 medially, 19 posteriorly ---------- 67
67. One anterior temporal; scales strongly keeled; usually three postoculars ---------- **Natrix** (p. 154)
    Two anterior temporals; scales weakly keeled; usually two postoculars ---------- **Elaphe** (p. 58)
68. Rostral greatly enlarged, with free edges, separating internasals; scale rows 19–17 ---------- **Phyllorhynchus** (p. 104)
    Rostral not or slightly enlarged, not with free edges; internasals in contact; scale rows variable ---------- 69
69. Two or more anterior temporals ---------- 70
    One anterior temporal ---------- 72
70. Scale rows medially 17, posteriorly 15 ---------- **Dendrophidion** (p. 46)
    Scale rows more numerous ---------- 71
71. Scale rows 23 medially, 15 posteriorly ---------- **Pseustes** (p. 114)
    Scale rows not less than 27 medially, 19 posteriorly ----- **Pituophis** (p. 105)
72. Scale rows in even numbers, 18 at middle of body, 14 posteriorly; very large tree snakes, with prominent black and yellow markings; not striped ---------- **Spilotes** (p. 131)
    Scale rows in odd numbers, 17 to 23 at middle of body, 15 (rarely 14) to 17 posteriorly; terrestrial snakes not over 3 feet in length, usually striped or at least not brilliantly marked ---------- **Thamnophis** (p. 158)
73. Anal divided ---------- 82
    Anal single ---------- 74
74. Maximum scale rows 15 ---------- **Dipsas**[7] (part) (p. 49)
    Maximum scale rows 17 or more ---------- 75
75. Maximum scale rows 17, posteriorly 15 or 14 ---------- **Drymarchon** (p. 53)
    Maximum scale rows 19, posteriorly 17 or more ---------- 76
76. Rostral greatly enlarged, with free edges, separating internasals; scale rows 19–17 ---------- **Phyllorhynchus** (p. 104)
    Rostral not or less enlarged, not separating internasals; if enlarged, scale rows 22 or more ---------- 77
77. Internasals fused with prefrontals on each side ---------- **Sympholis** (p. 134)
    Internasals and prefrontals distinct ---------- 78

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[6] *Opheodrys aestivus* (Linnaeus) only.

[7] *Dipsas sanniolus* only.

78. Over half the subcaudals entire; rostral somewhat enlarged. **Rhinocheilus** (p. 120)

All of subcaudals divided (rarely a few entire); rostral not or less enlarged---------- 79

79. Anterior temporal single; 19–17 scale rows; no apical pits; gray, with a series of brown cross bands---------- **Xenodon** (p. 153)

Two anterior temporals or more; apical pits present; if scale rows 19–17, pattern with red rings, with red, or nearly unicolor---------- 80

80. Scale rows 27 or more---------- **Arizona** (p. 32)

Scale rows 23 or less---------- 81

81. Belly uniform, whitish, unmarked; uniform brownish above, or with alternating red and black bands or reddish with a black head and nape and a light collar; subcaudals 78 or more; posterior maxillary teeth enlarged, grooved---------- **Oxyrhopus** (p. 103)

Belly checkered or otherwise marked with black; pattern not as described; subcaudals 79 or less; posterior maxillary teeth not or little enlarged, not grooved---------- **Lampropeltis** (p. 77)

82. No loreal; prefrontals broadly in contact with two or three supralabials. **Oxybelis** (p. 101)

A loreal or, if absent, prefrontals not as described---------- 83

83. Two or more anterior temporals---------- 84

One anterior temporal---------- 92

84. Maximum scale rows near middle of body 17 or less---------- 85

Maximum scale rows near middle of body 19 or more---------- 89

85. Scale rows posteriorly 13 or less---------- 86

Scale rows posteriorly 14 or more---------- 87

86. A middorsal light stripe; rostral frequently enlarged; scale rows always 17–13---------- **Salvadora** (p. 121)

No middorsal light stripe, although lateral stripes may be present; rostral never enlarged; scale rows 17 or 15 medially---------- **Masticophis** (p. 92)

87. Head short, broad, much broader than slender neck; body and tail very elongate and slender; generally one preocular; pupil vertical; posterior maxillary teeth enlarged, grooved; dorsal pattern of broad blotches; frequently vertebral scales somewhat enlarged. **Imantodes** (p. 75)

Head normal, little broader than neck; one or two preoculars; pupil round; posterior maxillary teeth not enlarged and grooved; dorsal pattern not in blotches in adults; vertebral scales never enlarged---------- 88

88. Two preoculars---------- **Coluber** (p. 37)

One preocular---------- **Dryadophis** (p. 52)

89. Two or more loreals; two or more preoculars; posterior teeth grooved; pupil vertical; maximum scale rows 20–27; blotched. **Trimorphodon** (p. 145)

One loreal; preoculars 1 or 2; posterior teeth not grooved or, if so, scale rows 19; pupil round or vertical---------- 90

90. Maximum scale rows 25 or more---------- **Elaphe** (p. 58)

Maximum scale rows 23 or less---------- 91

91. No scale pits; scale rows 19–17; striped or unicolor; rear maxillary teeth enlarged and grooved---------- **Conophis** (p. 43)

Two scale pits; scale rows seldom as low as 19–17; blotched or ringed; rear maxillary teeth not or slightly enlarged, not grooved. **Lampropeltis** (p. 77)

92. Maximum scale rows 15-------- 93
    Maximum scale rows 17 or more-------- 94
93. Two preoculars; dark above with a light neck ring- **Diadophis** (part) (p. 46)
    One preocular; light above, no collar-------- **Sonora** (part) (p. 126)
94. Maximum dorsal scale rows 17-------- 95
    Maximum dorsal scale rows 19 or more-------- 97
95. Striped or uniform brown above; belly immaculate except tips of ventrals; no apical pits-------- 96
    No stripes, dark (black) above, generally with a yellow collar; ventrals spotted; dorsal scales with single apical pits--- **Diadophis** (part) (p. 46)
96. No stripes on body, which is reddish brown; generally seven supralabials-------- **Coniophanes**[8] (p. 38)
    Stripes present on body; supralabials seven or eight.
    Rhadinaea (part) (p. 115)
97. Body striped or unicolor; no scale pits-------- 98
    Blotched; scale pits present-------- 99
98. Generally no loreal; head scales curiously overlapping; ventrals 165 or more; scale rows 19–15-------- **Manolepis** (p. 92)
    A loreal; head scales normal; ventrals less than 145 in forms with 19 scale rows-------- **Coniophanes** (part) (p. 38)
99. Scale pits single; posterior maxillary teeth not grooved; subcaudals less than 60-------- **Hypsiglena** (p. 72)
    Scale pits double-------- 100
100. Posterior maxillary teeth not grooved; 8 or 50 (or more) dark bands on body; scale rows 19 or 21 medially-------- **Pseudoleptodeira** (p. 113)
    Posterior maxillary teeth grooved; dark bands on body reduced to spots, or no less than 10, or if more than 40 the scale rows 23.
    Leptodeira (p. 86)

Family TYPHLOPIDAE Jan

Typhlopidae Jan, Elenco sistematico degli Ofidi, 1863, p. 9.

Type.—*Typhlops* Duméril and Bibron.

Genus TYPHLOPS Duméril and Bibron

Typhlops Duméril and Bibron, Erpétologie générale, vol. 6, 1844, p. 279.—Taylor, Univ. Kansas Sci. Bull., vol. 26, 1939 (1940), pp. 441–444, figs. 1–2 (Mexican species).

Genotype.—*Anguis lumbricalis* Linnaeus.

Range.—Central Mexico southward through northern Argentina; West Indies; Hawaii (introduced); southern Asia; southern Europe; Ceylon; Africa; Madagascar; Mauritius; Socotra; Comoro Islands; Australia; Philippine Islands; Caroline Islands; Solomon Islands; Loyalty Islands.

Species.—About 170 species are known in this genus; some 20 occur in the Americas, 3 in Mexico.[9]

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[8] *Coniophanes meridanus* Schmidt and Andrews only.

[9] See Species Inquirendae, p. 200.

KEY TO MEXICAN SPECIES OF TYPHLOPS

1. A subocular separating ocular from labials---------------- microstomus
   No subocular---------------- 2
2. Preocular in contact with anterior (lower) section of nasal; 20 scale rows---------------- braminus
   Preocular separated from anterior section of nasal by contact of posterior (upper) section with second labial; 18 scale rows---------------- basimaculatus

TYPHLOPS BASIMACULATUS Cope[10]

Typhlops basimaculatus Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866 (1867), pp. 320–321.—Taylor, Univ. Kansas Sci. Bull., vol. 26, 1939 (1940), pp. 441–442, fig. 1 (head scales).

Typhlops perditus Peters, Monatsb. Akad. Wiss. Berlin, vol. 7, 1869, pp. 435–436 (type locality, Orizaba, Veracruz; type Berlin Mus.).

Typhlops (*praelongus* n. sp.?) Müller, Verh. Naturf. Ges. Basel, vol. 7, 1885, pp. 674–675 (type locality, Córdoba, Veracruz; type Basel Mus.).

Type.—U.S.N.M. No. 6602.

Type locality.—Córdoba and Orizaba, Veracruz.

Range.—Central Veracruz southward on Atlantic slopes to Tabasco (known from Córdoba, Potrero Viejo, and Orizaba, *Veracruz;* and Teapa, *Tabasco*).

TYPHLOPS BRAMINUS (Daudin)

Eryx braminus Daudin, Histoire naturelle . . . des reptiles, vol. 7, An. 11, 1803, pp. 279–280.

Typhlops braminus Cuvier, Règne animal, ed. 2, vol. 2, 1829, p. 73.—Werner, Arch. Naturg., vol. 87, 1921, pp. 290–291.—Gadow, Jorullo, 1930, pp. 50, 65.—Taylor, Univ. Kansas Sci. Bull., vol. 26, 1939 (1940), p. 444, fig. 2 (head scales).

Type.—Plate 43 in Russell, An account of Indian serpents collected on the coast of Coromandel . . ., 1796, p. 48.

Type locality.—Vizagapatam, India.

Range.—Southern Asia; introduced into islands of the Indian Ocean, Africa, Hawaii, and southern Mexico (known in Mexico from several localities in southern and central Guerrero and from "Michoacan").

TYPHLOPS MICROSTOMUS Cope

Typhlops microstomus Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866, pp. 125–126.—Schmidt and Andrews, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1936, pp. 168, 183, text fig. 20.

Type.—U.S.N.M. No. 61064.

Type locality.—Yucatán.

Range.—The northern half of the Yucatán Peninsula (known from four localities in Yucatán).

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[10] This may be a subspecies or a synonym of *T. tenuis* Salvin of Guatemala.

Family LEPTOTYPHLOPIDAE Stejneger

Leptotyphlopidae Stejneger, Proc. U. S. Nat. Mus., vol. 14, 1891, p. 501.

Type.—*Leptotyphlops* Fitzinger.

Genus LEPTOTYPHLOPS Fitzinger

Leptotyphlops Fitzinger, Systema reptilium, 1843, p. 24.—Taylor, Copeia, 1939, No. 1, pp. 1–7, pl. 1 (Mexican species).—Klauber, Trans. San Diego Soc. Nat. Hist., vol. 9, 1940 (April 30), pp. 87–162, pl. 6, figs. 1–8, maps 1, 2 (United States and northern Mexican species).—Taylor, Univ. Kansas Sci. Bull., vol. 26, 1939 (1940) (Nov. 27), pp. 532–541, figs. 1–5 (key to Western Hemisphere species).

Rena Baird and Girard, Catalogue of North American reptiles, 1853, p. 142 (type, *R. dulcis* Baird and Girard).

Genotype.—*Typhlops nigricans* Schlegel.

Range.—Southern United States westward from central Texas, northward as far as Kansas, southward through most of Mexico except the southern central plateau region, Central America, and South America to Argentina; the Lesser Antilles and Watling Island (Bahamas); Africa and southwestern Asia.

Species.—In all, 34 American species and subspecies, 13 of which occur in Mexico; about 53 in the Eastern Hemisphere.

KEY TO MEXICAN FORMS OF LEPTOTYPHLOPS[11]

1.	With supraoculars	2
	Without supraoculars	8
2.	Supraoculars much larger than prefrontal or frontal; a dorsal pattern of dark brown, with distinct longitudinal lines	3
	Supraoculars no larger, or but little larger, than prefrontal or frontal; the dorsal pattern, if dark brown, without distinct longitudinal light lines	4
3.	Rostral contacting supraoculars	phenops bakewelli
	Rostral not contacting supraoculars	phenops phenops
4.	Twelve scale rows around tail	maximus
	Ten scale rows around tail	5
5.	Anterior supralabials entire	dulcis
	Each anterior supralabial divided by a vertical suture	6
6.	Parietals not contacting posterior supralabials	bressoni
	Parietals contacting posterior supralabials	7
7.	Dorsal scales 224 or more	myopicus dissectus
	Dorsal scales fewer than 224	myopicus myopicus
8.	Ten scale rows around the tail	9
	Twelve scale rows around the tail	10
9.	Dorsal scales number 250 or more	humilis segregus
	Dorsal scales number less than 250	humilis tenuiculus
10.	Dorsal scales usually less than 260	11
	Dorsal scales usually 260 or more	12

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[11] Based largely upon Klauber, *op. cit.*, pp. 151–152.

11. Five pigmented dorsal scale rows; usually 244 or more dorsal scales. **humilis slevini**
Seven pigmented dorsal scale rows; usually less than 244 dorsal scales. **dugesii**

12. Five lightly pigmented dorsal scale rows; usually 285 or more dorsal scales ---------- **humilis cahuilae**
Seven or more heavily pigmented dorsal scale rows; usually less than 285 dorsal scales ---------- **humilis humilis**

LEPTOTYPHLOPS BRESSONI Taylor

Leptotyphlops bressoni Taylor, Copeia, 1939, No. 1, pp. 5–6, figs. 7, 8.

Type.—E. H. Taylor-H. M. Smith Coll. No. 5247.

Type locality.—Hacienda El Sabino, near Uruapan, Michoacán.

Range.—Known definitely only from the type locality (records for Las Aguilillas and La Huacana, *Michoacán*, probably are referable to this species).

LEPTOTYPHLOPS DUGESII (Bocourt)

Catodon dugesii Bocourt, Bull. Soc. Philom., ser. 7, vol. 4, 1881, p. 81.

Leptotyphlops humilis dugesii Klauber, Trans. San Diego Soc. Nat. Hist., vol. 9, 1940, pp. 129–131, map 2.

Leptotyphlops dugesii Taylor, Univ. Kansas Sci. Bull., vol. 26, 1939 (1940), p. 538, fig. 5 (head scales).

Type.—Mus. Hist. Nat. Paris, two cotypes.

Type locality.—Colima.

Range.—Southern Sinaloa to Colima and perhaps eastward to Guanajuato (recorded from *Colima;* Talpa, *Jalisco;* Mazatlán and Presidio, *Sinaloa;* and doubtfully from *Guanajuato*).

LEPTOTYPHLOPS DULCIS (Baird and Girard)

Rena dulcis Baird and Girard, Catalogue of North American reptiles, 1853, pp. 142–143.

Leptotyphlops dulcis Stejneger, Proc. U. S. Nat. Mus., vol. 14, 1891, p. 501.—Taylor, Copeia, 1939, No. 1, p. 4, figs. 1, 2 (head scales).

Leptotyphlops dulcis dulcis Klauber, Trans. San Diego Soc. Nat. Hist., vol. 9, 1940, pp. 108–112, map 1.[12]

Type.—U.S.N.M. No. 7296.

Type locality.—Between San Pedro and Comanche Springs, Tex.

Range.—Central Oklahoma and the Panhandle, south through central Texas, Tamaulipas, and Nuevo León to northern Hidalgo (recorded in Mexico from Monterrey and Ojo de Agua, *Nuevo León;* Matamoros and Bagdad, *Tamaulipas*; and Jacala, *Hidalgo*).

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[12] It appears to us that the evidence produced in this paper indicates that *myopicus* is not a race of *dulcis*.

LEPTOTYPHLOPS HUMILIS HUMILIS (Baird and Girard)

Rena humilis Baird and Girard, Catalogue of North American reptiles, 1853, p. 143.

L.[*eptotyphlops*] *h.*[*umilis*] *humilis* Klauber, Trans. San Diego Soc. Nat. Hist., vol. 6, 1931, p. 340; vol. 9, 1940, pp. 123–129, map 2, pl. 6.

Type.—U.S.N.M. No. 2101.

Type locality.—"Valliecitas," Calif.

Range.—"The coastal and cismontane area of southern California, and northern and central Lower California, from Santa Barbara to San Ignacio. Also the Mojave Desert and eastward of the Sierras, from the Death Valley region, through the southern tip of Nevada, to central and southeastern Arizona; also Cedros Island."

LEPTOTYPHLOPS HUMILIS CAHUILAE Klauber

Leptotyphlops humilis cahuilae Klauber, Trans. San Diego Soc. Nat. Hist., vol. 6, 1931, pp. 339–340; vol. 9, 1940, pp. 134–137.—Taylor, Copeia, 1939, No. 1, p. 1, figs. 5, 6 (head scales).

Type.—L. M. Klauber (San Diego, Calif.) No. 2637.

Type locality.—Yaqui Well, San Diego County, Calif.

Range.—The Colorado and Yuma Deserts of southeastern California and southwestern Arizona, and probably northeastern Baja California and extreme northwestern Sonora; an isolated population in the Vizcaino Desert of central Baja California is tentatively referred to this race.

LEPTOTYPHLOPS HUMILIS SEGREGUS Klauber

Leptotyphlops humilis segregus Klauber, Trans. San Diego Soc. Nat. Hist., vol. 9, 1939, pp. 67–68; *idem*, 1940, pp. 140–143, map 2.

Type.—U.S.N.M. No. 103670.

Type locality.—Chalk Draw, Brewster County, Tex.

Range.—"Southeastern Arizona, northern Coahuila and the trans-Pecos region of Texas" (definite records are from Sierra de Santa Rosa and Sierra del Carmen, *Coahuila;* an indefinite record of *humilis* from Batopilas, *Chihuahua*, may be referable to this race, to *dugesii*, or to an undescribed form).

LEPTOTYPHLOPS HUMILIS SLEVINI Klauber

Leptotyphlops humilis slevini Klauber, Trans. San Diego Soc. Nat. Hist., vol. 6, 1931, pp. 338–339; vol. 9, 1940, pp. 132–133, map 2.

Type.—Calif. Acad. Sci. No. 53721.

Type locality.—La Paz, Baja California.

Range.—Cape region of Baja California.

LEPTOTYPHLOPS HUMILIS TENUICULUS (Garman)

Stenostoma tenuiculum GARMAN, Mem. Mus. Comp. Zool., vol. 8, 1883, p. 5.
Leptotyphlops humilis tenuiculus KLAUBER, Trans. San Diego Soc. Nat. Hist., vol. 9, 1940, pp. 143–144, map 2.

Type.—Mus. Comp. Zool. No. 4519.

Type locality.—San Luis Potosí (city?).

Range.—Known only from the type locality.

LEPTOTYPHLOPS MAXIMUS Loveridge

Leptotyphlops maximus LOVERIDGE, Proc. Biol. Soc. Washington, vol. 45, 1932, pp. 151–152.—TAYLOR, Copeia, 1939, No. 1, pp. 4–5, figs. 3–4.—KLAUBER, Trans. San Diego Soc. Nat. Hist., vol. 9, 1940, pp. 120–122, map 1.

Type.—Mus. Comp. Zool. No. 33604.

Type locality.—Chilpancingo, Guerrero.

Range.—The Río Balsas Basin in Guerrero, Morelos, and Puebla (definitely recorded from Balsas, Chilpancingo, and near Huajintlán, *Guerrero*, and Puente de Ixtla, *Morelos*; records from Cuautla, *Morelos*, and Izucar de Matamoros, *Puebla*, are probably referable to this species).

LEPTOTYPHLOPS MYOPICUS MYOPICUS (Garman)

Stenostoma myopicum GARMAN, Mem. Mus. Comp. Zool., vol. 8, 1883, pp. 6, 130, 131.
Leptotyphlops dulcis myopicus KLAUBER, Trans. San Diego Soc. Nat. Hist., vol. 9, 1940, pp. 117–120, map 1.
Leptotyphlops myopicus myopicus SMITH, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1944, p. 146.

Type.—Mus. Comp. Zool. No. 4526, three cotypes.

Type locality.—Savineto, near Tampico, Tamaulipas.

Range.—"From northern Veracruz, probably northern Puebla, and southern San Luis Potosi northward across southern Tamaulipas to central Nuevo Leon" (definitely recorded from Monterrey, Santiago, and Ojo de Agua [Galeana], *Nuevo León*, Savineto, *Tamaulipas*, *San Luis Potosí*, and Panuco and Tantoyuca, *Veracruz;* records probably referable to this race are from Matehuala, *San Luis Potosí*, and Teziutlán, *Puebla*).

LEPTOTYPHLOPS MYOPICUS DISSECTUS (Cope)

Glauconia dissecta COPE, Amer. Nat., vol. 30, 1896, p. 753.
Leptotyphlops dulcis dissectus KLAUBER, Trans. San Diego Soc. Nat. Hist., vol. 9, 1940, pp. 112–117, map 1.
Leptotyphlops myopica TAYLOR (*nec* Garman), Copeia, 1939, No. 1, pp. 2–4, figs. 9–10.

Type.—Acad. Nat. Sci. Phila. No. 10752.

Type locality.—Lake Valley, Sierra County, N. Mex.

Range.—"From southern Coahuila, Mexico, north and northwest through trans-Pecos Texas and southern New Mexico to southeastern Arizona; also southern Kansas, and central and northeastern Oklahoma" (definite records in Mexico are from San Pedro and 4 miles west of Saltillo, *Coahuila*).

LEPTOTYPHLOPS PHENOPS PHENOPS (Cope)

Stenostoma phenops Cope, Journ. Acad. Nat. Sci. Philadelphia, ser. 2, vol 8, 1876, p. 128.

Leptotyphlops phenops Smith, Publ. Field Mus. Nat. Hist., zool. ser., vol. 24, 1939, p. 28.

Leptotyphlops phenops phenops Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 444–445.

Leptotyphlops albifrons Taylor (*nec* Wagler), Copeia, 1939, No. 1, p. 1, figs. 11, 12.

Type.—U. S. N. M. Nos. 12444, 30289–94, cotypes.

Type locality.—Tehuantepec.

Range.—Coastal and foothill regions on Atlantic slopes from central Veracruz into Guatemala, including Yucatán; and on Pacific slopes from the Isthmus of Tehuantepec into northern Chiapas (recorded in Mexico from several localities in the states of Chiapas, Oaxaca, Querétaro, Veracruz, and Yucatán [including Cozumel Island]).

LEPTOTYPHLOPS PHENOPS BAKEWELLI Oliver

Leptotyphlops bakewelli Oliver, Occ. Pap. Mus. Zool. Univ. Michigan, No. 360, 1937, pp. 16–18.—Taylor, Copeia, 1939, No. 1, p. 1, figs. 13, 14 (head scales).

Leptotyphlops phenops bakewelli Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 445.

Type.—Univ. Mich. Mus. Zool. No. 80228.

Type locality.—Paso del Río, Colima.

Range.—Coastal and foothill regions on Pacific slopes from Colima and Michoacán southward to the Isthmus of Tehuantepec (recorded from several localities in the states of Colima, Guerrero, Jalisco, Michoacán, and Oaxaca).

Family BOIDAE Gray

Boidae Gray, Zool. Misc., 1842, p. 41.

Type.—*Boa* Linnaeus.

Genus CONSTRICTOR Laurenti

Constrictor Laurenti, Specimen medicum exhibens synopsin reptilium . . ., 1768, p. 106.—Stull, Proc. Boston Soc. Nat. Hist., vol. 40, No. 8, 1935, pp. 403–405 (check list of species).

Genotype.—*Boa constrictor* Linnaeus.

Range.—Both coasts of extreme northern Mexico (mainland) southward to northwestern Peru and central Argentina.

Species.—Two species, one with six subspecies, are recognizable. Two forms occur in Mexico.

KEY TO MEXICAN FORMS OF CONSTRICTOR

1. Ventrals 225–253 ---------------------------------- constrictor imperator
   Ventrals 258–259 ---------------------------------- constrictor sigma

CONSTRICTOR CONSTRICTOR IMPERATOR (Daudin)

Boa imperator DAUDIN, Histoire naturelle . . . reptiles, vol. 5, 1803, pp. 150–152.—DITMARS, Reptiles of the world, 1926, pl. 47 (lower fig.).

Constrictor constrictor imperator IHERING, Rev. Mus. Paulista, vol. 8, 1910, p. 321.—SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 409–411.

Boa diviniloquax mexicana JAN, Elenco sistematico degli Ofidi, 1863, p. 23 (type locality, Mexico; type in Tübingen Mus.).

Type.—Mus. Hist. Nat. Paris.

Type locality.—Mexico.

Range.—Central Tamaulipas and northern Sonora southward on both coasts, including Yucatán, to South America; María Madre Island, Tres Marías Islands (known from the states of Campeche, Chiapas, Colima, Durango, Guerrero, Michoacán, Nayarit, Oaxaca, Puebla, San Luis Potosí, Sinaloa, Sonora, Tamaulipas, Veracruz, Yucatán).

CONSTRICTOR CONSTRICTOR SIGMA Smith

Constrictor constrictor sigma SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 411–412.

Type.—U. S. N. M. No. 24672.

Type locality.—María Madre Island, Tres Marías Islands.

Range.—Known only from the type locality.

Genus LICHANURA Cope

Lichanura COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861, p. 304.—KLAUBER, Trans. San Diego Soc. Nat. Hist., vol. 6, 1931, pp. 305–318, pl. 21, map (generic revision).

Genotype.—*Lichanura trivirgata* Cope.

Range.—Baja California, southern California, southwestern Arizona, and western Sonora.

Species.—Three forms, all occurring in Mexico.

KEY TO MEXICAN FORMS OF LICHANURA[13]

1. Longitudinal stripes, if present, with edges uneven, zigzag, and ill-defined ---------------------------------- roseofusca roseofusca
   Longitudinal stripes present and with even (but serrated) edges -------- 2

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[13] From Klauber, *op. cit.*, p. 316.

2. Longitudinal stripes dark chocolate-brown; ventrals average 222___ **trivirgata**
Longitudinal stripes red-brown; ventrals average 230______ **roseofusca gracia**

LICHANURA ROSEOFUSCA ROSEOFUSCA Cope

Lichanura roseofusca Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 20, 1868, p. 2.
Lichanura roseofusca roseofusca Klauber, Trans. San Diego Soc. Nat. Hist., vol. 6, 1931, pp. 305–318, pl. 21, figs. 2–3, map p. 306.
Lichanura myriolepis Cope, *idem* (type locality, northern Baja California; type in Acad. Nat. Sci. Phila.).

Type.—Acad. Nat. Sci. Phila. No. 6699.

Type locality.—Northern Baja California.

Range.—Southwestern California and northwestern Baja California.

LICHANURA ROSEOFUSCA GRACIA Klauber

Lichanura roseofusca gracia Klauber, Trans. San Diego Soc. Nat. Hist., vol. 6, 1931, pp. 306–318, pl. 21, fig. 1, map p. 306; Copeia, 1933, No. 4, pp. 214–215.—Taylor, Univ. Kansas Sci. Bull., vol. 24, 1936 (1938), p. 489.

Type.—L. M. Klauber (San Diego, Calif.) No. 2995.

Type locality.—Randsburg, Kern County, Calif.

Range.—Southeastern California, southwestern Arizona, and western Sonora (recorded in Mexico from Guaymas and Hermosillo, *Sonora;* probably occurs also in northeastern Baja California).

LICHANURA TRIVIRGATA Cope

Lichanura trivirgata Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861, p. 304.—Klauber, Trans. San Diego Soc. Nat. Hist., vol. 6, 1931, pp. 305–318, map p. 306.

Type.—U.S.N.M. No. 5023.

Type locality.—Cape San Lucas, Baja California.

Range.—The Cape region of Baja California.

Genus UNGALIOPHIS Müller

Ungaliophis Müller, Verh. Nat. Ges. Basel, vol. 7, 1882, p. 142.

Genotype.—*Ungaliophis continentalis* Müller.

Range.—Pacific slopes of Central America and Chiapas, southward to Colombia.

Species.—Three; extralimital are *U. panamensis* Schmidt and *U. danieli* Prado.

UNGALIOPHIS CONTINENTALIS Müller

(Unidentified) Müller, Verh. Nat. Ges. Basel, vol. 6, 1878, pp. 591, 652–654, pl. 1.
Ungaliophis continentalis Müller, Verh. Nat. Ges. Basel, vol. 7, 1882, pp. 141–142.—Werner, Arch. Naturg., vol. 87, 1921, p. 251.
Peropodum guatemalensis Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 8, 1882, pp. 523–524, pl. 31, fig. 5 (based

on Müller's 1878 description; type and type locality identical with those of *U. continentalis* Müller).

Type.—Basel Mus.

Type locality.—"Retaluleu," southwestern Guatemala.

Range.—Pacific slopes of southern Chiapas and Guatemala (recorded in Mexico only from Finca La Joya, near Tapachula, *Chiapas*).

Family PYTHONIDAE Cope

Pythonidae Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 16, 1864, p. 230.

Type.—*Python* Daudin.

Genus LOXOCEMUS Cope

Loxocemus Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861, pp. 76–77.

Genotype.—*Loxocemus bicolor* Cope.

Range.—The Pacific coast from Colima southward to Costa Rica.

Species.—Two, both occurring in Mexico.

KEY TO SPECIES OF LOXOCEMUS

1. Supralabials white, this area sharply defined from dorsal color; ventral surface of head white; belly mostly white, little stippled---------- bicolor

   Supralabials practically as dark as top of head; ventral surface of head heavily stippled; belly pigmented--------------------------- sumichrasti

LOXOCEMUS BICOLOR Cope

Loxocemus bicolor Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861, p. 77.—Taylor, Univ. Kansas Sci. Bull., vol. 26, 1939 (1940), pp. 445–447, fig. 1 (head scales).

?*Plastoseryx bronni* Jan, Arch. Naturg., vol. 28, 1862, pp. 242, 244–248 (type locality, America; type in Heidelberg Mus.).

Type.—U.S.N.M. No. 4948, missing.

Type locality.—La Unión, El Salvador.

Range.—Northern central Guerrero and Morelos southward to Costa Rica, on the Pacific coast (known in Mexico from Agua Bendita, *Guerrero*, Puente de Ixtla, *Morelos*, Tehuantepec, *Oaxaca*, and near Escuintla, *Chiapas*).

LOXOCEMUS SUMICHRASTI Bocourt

Loxocemus sumichrasti Bocourt, Ann. Sci. Nat., ser. 6, vol. 4, 1876, art. 7, p. 1.—Taylor, Univ. Kansas Sci. Bull., vol. 26, 1939 (1940), pp. 447, 448, fig. 2 (head scales).

Loxocemus bicolor (*nec* Cope) Ditmars, Snakes of the world, 1931, pl. 1.

Type.—Mus. Hist. Nat. Paris.

Type locality.—Tehuantepec.

Range.—Colima to the Isthmus of Tehuantepec (recorded from the states of Colima, Guerrero, Michoacán, and Oaxaca).

Family COLUBRIDAE Cope

Colubridae Cope, Proc. Amer. Philos. Soc., vol. 23, 1886, p. 479.

Type.—*Coluber* Linnaeus.

Subfamily SIBYNOPHIINAE Dunn

Sibynophiinae Dunn, Bull. Antivenin Inst. Amer., vol. 2, 1928, p. 20.—Taylor and Smith, Univ. Kansas Sci. Bull., vol. 29, 1943, p. 304.

Type.—*Sibynophis* Fitzinger.

Genus SCAPHIODONTOPHIS Taylor and Smith

Scaphiodontophis Taylor and Smith, Univ. Kansas Sci. Bull., vol. 29, 1943, pp. 302–304.

Genotype.—*Enicognathus annulatus* Duméril and Bibron.

Range.—Coastal and foothill regions from central Mexico (Atlantic slopes) to Colombia.

Species.—Nine species and subspecies are known; five occur in Mexico.

KEY TO MEXICAN SPECIES OF SCAPHIODONTOPHIS

1.	No bands on body or tail; body nearly uniformly colored, not red; 181 ventrals	**sumichrasti**
	Bands present at least on body; triads separated by red; ventrals 157 or less	2
2.	Black head cap followed by a red area (sometimes narrow), then a pair of black bands (enclosing a white)	**carpicinctus**
	Black head cap followed in succession by a white band, a single black band, and a longer red band	3
3.	Tail banded, as well as all of body	**cyclurus**
	Tail not banded; all or part of body banded	4
4.	All of body banded	**nothus**
	Anterior third or half of body banded	**albonuchalis**

SCAPHIODONTOPHIS ALBONUCHALIS Taylor and Smith

Scaphiodontophis albonuchalis Taylor and Smith, Univ. Kansas Sci. Bull., vol. 29, 1943, pp. 323–327, fig. 9, pl. 23, fig. 1, pls. 24, 25, map fig. 4.

Type.—U.S.N.M. No. 110413.

Type locality.—Finca La Esperanza, near Escuintla, Chiapas.

Range.—Foothills on both coasts south of the Isthmus of Tehuantepec; on the Pacific side, from southern Chiapas (near Escuintla) to El Salvador; on the Atlantic side, known only from Tabasco (San Juan Bautista), and central Veracruz (near Jalapa).

*SCAPHIODONTOPHIS CARPICINCTUS Taylor and Smith

Scaphiodontophis carpicinctus TAYLOR and SMITH, Univ. Kansas Sci. Bull., vol. 29, 1943, fig. 6, pl. 22, fig. 1, map fig. 4.

Type.—U.S.N.M. No. 110411.

Type locality.—Piedras Negras, Guatemala.

Range.—Atlantic foothills of Guatemala and undoubtedly of Chiapas (known only from the type locality).

SCAPHIODONTOPHIS CYCLURUS Taylor and Smith

Scaphiodontophis cyclurus TAYLOR and SMITH, Univ. Kansas Sci. Bull., vol. 29, 1943, fig. 7, pp. 318–320, pl. 22, fig. 2, map fig. 4.

Type.—E. H. Taylor-H. M. Smith Coll. No. 23618.

Type locality.—Cuautlapan, Veracruz.

Range.—Known only from the type locality and from Jicaltepec, Veracruz.

SCAPHIODONTOPHIS NOTHUS Taylor and Smith

Scaphiodontophis nothus TAYLOR and SMITH, Univ. Kansas Sci. Bull., vol. 29, 1943, pp. 320–322, fig. 8, pl. 23, fig. 2, map fig. 4.

Type.—U.S.N.M. No. 110412.

Type locality.—Potrero Viejo, Veracruz.

Range.—Known only from the type locality.

SCAPHIODONTOPHIS SUMICHRASTI (Bocourt)

Henicognathus sumichrasti BOCOURT, Mission scientifique au Mexique et dans l' Amérique centrale, Rept., livr. 10, 1886, pp. 628–630, pl. 41, fig. 5.

Scaphiodontophis sumichrasti TAYLOR and SMITH, Univ. Kansas Sci. Bull., vol. 29, 1943, pp. 307–309.

Type.—Mus. Hist. Nat. Paris.

Type locality.—Cacoprieto, Oaxaca.

Range.—Known only from the type locality.

Subfamily COLUBRINAE Cope

Colubrinae COPE, Amer. Nat., vol. 27, 1893, p. 480.—DUNN, Bull. Antivenin Inst. Amer., vol. 2, 1928, p. 20.—BOGERT, Bull. Amer. Mus. Nat. Hist., vol. 77, 1940, pp. 8–11.—SMITH, Proc. Rochester Acad. Sci., vol. 8, 1942, pp. 178–179.

Xenodontinae COPE, Trans. Amer. Philos. Soc., vol. 18, 1895 (1896), pp. 200, 201 (type, *Xenodon* Boie).—DUNN, Bull. Antivenin Inst. Amer., vol. 2, 1928, p. 20.

Type.—*Coluber* Linnaeus.

Genus ADELPHICOS Jan

Adelphicos JAN, Arch. Zool. Anat. Fis., vol. 2, 1862, p. 18.—SMITH, Proc. Rochester Acad. Sci., vol. 8, 1942, pp. 175–195, figs. 1–6 (revision).

Rhegnops COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866, pp. 128–129 (type, *R. visoninus* Cope).

Genotype.—*Adelphicos quadrivirgatum* Jan.

Range.—Atlantic slopes from central Veracruz to central Honduras, and Pacific slopes from central Guatemala to central Oaxaca; also the interior valleys of Guatemala and Chiapas.

Species.—Five subspecies are included in two species; the single extralimital race is *A. v. veraepacis* Stuart from the mountains of central Guatemala.

KEY TO FORMS OF ADELPHICOS

1. Third infralabial nearly as broad as long, subequal in size to second; chin shields not greatly expanded toward lip -------- 2

   Third infralabial absent, or greatly reduced in size and confined to labial border; chin shields greatly expanded toward lip -------- 3

2. Ventrals 124 to 130 in males, 136 to 142 in females; caudals 40 to 42 in males, 27 to 30 in females; maximum length 392 mm. (females; males 358 mm.); chin distinctly dark spotted; all of anterior edges of ventrals dark; subcaudal surface generally suffused with black -------- veraepacis veraepacis

   Ventrals 121 to 129 in males, 128 to 135 in females; caudals 31 to 37 in males, 22 to 27 in females; maximum length 318 mm. (females; in males 243 mm.); chin nearly or quite immaculate or with median dark spots that do not extend along all of anterior margins of ventrals; a median subcaudal tail stripe -------- veraepacis nigrilatus

3. Chin shields separated from lip by a very narrow third labial; caudals 43 to 49 in males, 36 to 45 in females; belly frequently heavily pigmented; subcaudal surface frequently suffused with black. quadrivirgatus visoninus

   Chin shields bordering lip, third infralabial absent; belly not or little pigmented -------- 4

4. Caudals 29 to 35 in males, 24 to 29 in females; ground color very dark, lines scarcely visible; never any pigment on chin or belly; subcaudal surface profusely pigmented -------- quadrivirgatus sargii

   Caudals 44 to 49 in males, 32 to 36 in females; lines on sides and back distinct; belly sometimes with some pigment; a median subcaudal stripe -------- quadrivirgatus quadrivirgatus

ADELPHICOS QUADRIVIRGATUS QUADRIVIRGATUS Jan

Adelphicos quadrivirgatum Jan, Arch. Zool. Anat. Fis., vol. 2, 1862, pp. 18–19, pl. 8.

Adelphicos quadrivirgatus quadrivirgatus Smith, Proc. Rochester Acad. Sci., vol. 8, 1942, pp. 188–192, figs. 3 (ventral head scales), 6 (map).

Adelphicos quadrivirgatus acutirostrum Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 9, 1883, p. 555, pl. 32, fig. 12 (head scales) (type locality, Mexico; type in Mus. Hist. Nat. Paris).

Type.—Milan Mus.

Type locality.—Mexico.

Range.—Foothills, on the Atlantic coast from central Veracruz to British Honduras, avoiding the northern part of the peninsula of Yucatán; on the Pacific coast from central Oaxaca to at least northern Chiapas (known from four localities: Jicaltepec, *Veracruz;* Pochutla, *Oaxaca;* Ocozocoautla, *Chiapas;* Silkgrass Creek, *British Honduras*).

ADELPHICOS QUADRIVIRGATUS SARGII (Fischer)

Rhegnops sargii FISCHER, Jahrb. Hamburg Wiss. Anst., vol. 2, 1885, pp. 92–93.
Adelphicos quadrivirgatus sargii SMITH, Proc. Rochester Acad. Sci., vol. 8, 1942, pp. 192–195, figs. 4 (ventral head scales), 6 (map).

Type.—Three cotypes, one in Brit. Mus. Nat. Hist. (lectotype), two in Stuttgart Mus.

Type locality.—Guatemala.

Range.—Foothills on Pacific slopes from southern Chiapas to central Guatemala (known from only one locality in Mexico: Chicharras, *Chiapas*).

ADELPHICOS QUADRIVIRGATUS VISONINUS (Cope)

Rhegnops visoninus COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866, pp. 128–129.
Adelphicos quadrivirgatus visoninus SMITH, Proc. Rochester Acad. Sci., vol. 8, 1942, pp. 186–188, figs. 2 (ventral head scales) 6 (map).

Type.—U.S.N.M. No. 24899.

Type locality.—Honduras.

Range.—Foothills on Atlantic slopes from Tabasco south and east to central Honduras, avoiding most if not all the Yucatán Peninsula (known definitely in Mexico from two localities: Palenque, *Chiapas*, and Tenosique, *Tabasco*).

ADELPHICOS VERAEPACIS NIGRILATUS Smith

Adelphicos veraepacis nigrilatus SMITH, Proc. Rochester Acad. Sci., vol. 8, 1942, pp. 182–186, figs. 1 (ventral head scales), 6 (map).

Type.—E. H. Taylor-H. M. Smith Coll. No. 15335.

Type locality.—San Cristóbal, Chiapas.

Range.—Central Chiapas (known only from the type locality).

Genus AMASTRIDIUM Cope

Amastridium COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860 (1861), p. 370.—DUNN, Proc. U. S. Nat. Mus., vol. 65, art. 11, 1924, pp. 1–3.
Mimometopon WERNER, Abh. Bayer. Akad. Wiss., vol. 22, 1903, p. 349 (type, *M. sapperi* Werner).

Genotype.—*Amastridium veliferum* Cope.

Range.—Extreme southern Mexico to Panama.

Species.—Two; the extralimital species is *veliferum* Cope, from Nicaragua, Costa Rica, and Panama.

AMASTRIDIUM SAPPERI (Werner)

Mimometopon sapperi WERNER, Abh. Bayer. Akad. Wiss., vol. 22, 1903, pp. 349–350.
Amastridium sapperi DUNN, Proc. U. S. Nat. Mus., vol. 65, art. 11, 1924, p. 1.—SMITH, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1944, pp. 136–138.

Type.—München Mus.

Type locality.—Guatemala.

Range.—Foothills on the Pacific slopes of Guatemala and extreme southern Chiapas, and in central Guatemala; also perhaps the humid Atlantic slopes of Nuevo León (known in Mexico only from Chicharras, Escuintla, and Cerro Ovando, *Chiapas;* doubtfully recorded from near Santiago, *Nuevo León*).

Genus ARIZONA Kennicott

Arizona Kennicott, *in* Baird, Report on the United States and Mexican boundary survey, vol. 2, 1859, Rept., p. 18.

Genotype.—*Arizona elegans* Kennicott.

Range.—Northern Tamaulipas, central Texas, and western Kansas westward to the coast of southern California and northern Baja California, northward to southwestern Utah, southward probably to southern Coahuila and southern Sonora.

Species.—A single species, with two well-defined subspecies, both occurring in Mexico.

KEY TO FORMS OF ARIZONA

1. Dorsal blotches on body larger, usually less than 56 on body, separated from each other by spaces narrower than the blotches; scale rows usually 29 or 31 ------------------------------ elegans elegans

   Dorsal blotches on body smaller, usually more than 56 on body, separated from each other by spaces as broad as or broader than the blotches; scale rows usually 27, seldom 29 -------------------- elegans occidentalis

ARIZONA ELEGANS ELEGANS Kennicott[14]

Arizona elegans Kennicott, *in* Baird, Report on the United States and Mexican boundary survey, vol. 2, Rept., 1859, pp. 18–19, pl. 13.

Arizona elegans elegans Blanchard, Occ. Pap. Mus. Zool. Univ. Michigan, No. 150, 1924, p. 3.—Schmidt and Davis, Field book of snakes, 1941, pp. 155–156, fig. 44 (midbody pattern).

Coluber arizonae Boulenger, Catalogue of the snakes in the British Museum, vol. 2, 1894, p. 66 (substitute name for *Arizona elegans* Kennicott, a secondary homonym of *Coluber elegans* Shaw, 1802).

Type.—U. S. N. M. Nos. 1722, 4266, two cotypes.

Type locality.—Lower "Rio Grande," Tex., and "Between Arkansas and Cimarron" River, Okla.

Range.—Northern Tamaulipas and central Texas, Oklahoma, and southwestern Kansas westward through central New Mexico to southeastern Arizona and central Chihuahua, southward probably to southern Coahuila (known in Mexico from Coahuila).

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[14] *Arizona arizonae arizonae* (Boulenger) to those who suppress secondary homonyms.

ARIZONA ELEGANS OCCIDENTALIS Blanchard[15]

Arizona elegans occidentalis Blanchard, Occ. Pap. Mus. Zool. Univ. Michigan, No. 150, 1924, pp. 1–3, table 2.—Schmidt and Davis, Field book of snakes, 1941, pp. 156, 158, figs. 43, 44, pl. 17 (lower fig.).

Arizona elegans Van Denburgh, Occ. Pap. California Acad. Sci., vol. 10, 1922, pp. 702–704 (part), pl. 73 (full-length photographs).

Type.—U. S. N. M. No. 54372.

Type locality.—La Jolla, Calif.

Range.—Arizona (except southeastern corner), extreme southwestern Utah, southern Nevada, southern California, extreme northern Baja California, Sonora (except northeastern corner) and extreme central western Chihuahua (known from several localities in Baja California, and from Punta Peñascosa, *Sonora*, Casas Grandes and Samalayuca, *Chihuahua*).

Genus CHERSODROMUS Reinhardt

Chersodromus Reinhardt, Vid. Medd. Naturh. Foren. Kjøbenhavn, 1860, pp. 242–243, pl. 4, figs. 10, 11.

Opisthiodon Peters, Monatsb. Akad. Wiss. Berlin, 1861, p. 461 (type, *O. torquatus* Peters).

Genotype.—*Chersodromus liebmanni* Reinhardt.

Range.—Foothills of central Veracruz.

Species.—One.

CHERSODROMUS LIEBMANNI Reinhardt

Chersodromus liebmanni Reinhardt, Vid. Medd. Naturh. Foren. Kjøbenhavn, 1860, pp. 243–254, pl. 4, figs. 10, 11.—Jan, Iconographie générale des ophidiens, livr. 12, 1865, pl. 3, fig. 2.—Taylor and Smith, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 251–252.—Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 402.

Chersodromus nigricans Reinhardt, *ibid.*, p. 245 (type locality, Mexico; type in Copenhagen Mus.?).

Opisthiodon torquatus Peters, Monatsb. Akad. Wiss. Berlin, 1861, p. 461 (type locality, Huanusco [=Huatusco], Veracruz; type in Berlin Mus.).

Dirosema collare Werner, Zool. Anz., vol. 23, 1900, p. 197, figs. 3–5 (type locality, Mexico; type?).

Type.—Copenhagen Mus.?

Type locality.—Mexico.

Range.—Foothills of central Veracruz (known from Cuautlapan, Huatusco, Metlac, Mirador, Orizaba).

Genus CHILOMENISCUS Cope

Chilomeniscus Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 339.

Genotype.—*Chilomeniscus stramineus* Cope.

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[15] *Arizona arizonae occidentalis* Blanchard to those who suppress secondary homonyms.

Range.—Southeastern California, southern Arizona (except eastern corner), western Sonora, and Baja California.

Species.—Three forms, comprising two species, all occurring in Mexico.

KEY TO FORMS OF CHILOMENISCUS

1. Black cross bands present on body .... cinctus
   No black cross bands 2
2. Each dorsal scale, except in two outer rows, with a black dot at posterior edge; ventrals average 109 in males, 117 in females; caudals average 29 in males, 27 in females .... stramineus stramineus
   Dorsal scales with several small, scattered dots, or a large blotch; rarely a dot on posterior edge of dorsal scales; ventrals average 120 in males, 130 in females; caudals average 25 in males, 22 in females. stramineus esterensis

CHILOMENISCUS CINCTUS Cope

Chilomeniscus cinctus Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861, p. 303.—Linsdale, Univ. California Publ. Zool., vol. 38, 1932, pp. 381–382.—Ditmars, Field book of North American snakes, 1939, p. 216, pl. 38.—Schmidt and Davis, Field book of snakes, 1941, pp. 204–205, fig. 66, pl. 22 (upper fig.).

Chilomeniscus stramineus fasciatus Cope, Proc. U. S. Nat. Mus., vol. 14, 1892, p. 595 (type locality, La Paz, Baja California; type, U.S.N.M. No. 12630).

Chilomeniscus punctatissimus Van Denburgh and Slevin, Proc. California Acad. Sci., ser. 4, vol. 11, 1921, p. 98 (type locality, Isla Partida, Espíritu Santo Island, Baja California; type, Calif. Acad. Sci. No. 49156).

Type.—Lost.

Type locality.—Near Guaymas, Sonora.

Range.—Southeastern California, southern Arizona (except extreme eastern corner), western Sonora, and Baja California to (but not including) the Cape region (known from several localities in Baja California, but only the type locality on mainland Mexico).

CHILOMENISCUS STRAMINEUS STRAMINEUS Cope

Chilomeniscus stramineus Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 339.—Linsdale, Copeia, 1936, No. 4, p. 232–234.

Chilomeniscus stramineus stramineus Hoard, Journ. Ent. Zool., vol. 31, 1939, pp. 45–46.

Type.—U.S.N.M. Nos. 4674 (2), 6495 (2); Acad. Nat. Sci. Phila. No. 3405, five cotypes.

Type locality.—Cape San Lucas, Baja California.

Range.—Cape region of Baja California.

CHILOMENISCUS STRAMINEUS ESTERENSIS Hoard

Chilomeniscus stramineus esterensis Hoard, Journ. Ent. Zool., vol. 31, 1939, pp. 45–46, fig.

Type.—L. M. Klauber Coll. (San Diego, Calif.) No. 30368.

Type locality.—Estero Salina, Baja California.

Range.—Known only from the type locality.

Genus CHIONACTIS Cope

Lamprosoma HALLOWELL, Proc. Acad. Nat. Sci. Philadelphia, vol. 8, 1856, p. 310 (genotype, *Rhinostoma occipitale* Hallowell; name preoccupied by *Lamprosoma* Kirby, 1819 [Coleoptera]).

Chionactis COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 241.—STICKEL, Proc. Biol. Soc. Washington, vol. 56, 1943, pp. 127–128 (resurrection and comparison with *Sonora* and *Procinura*).

Genotype.—*Rhinostoma occipitale* Hallowell.

Range.—Southern California except near coast, extreme southern Nevada, and western Arizona.

Species.—One species with four subspecies is recognized. Two forms occur in Mexico.

KEY TO MEXICAN FORMS OF CHIONACTIS

1. Total number of dark bands on body and tail 22 or more	**occipitalis annulatus**
Total number of dark bands on body and tail 21 or less	**occipitalis palarostris**

*CHIONACTIS OCCIPITALIS ANNULATUS (Baird)

Lamprosoma annulatum BAIRD, Rep. U. S. Mex. Bound. Surv., vol. 2, 1859, Rept., p. 22, pl. 21, fig. 1.—VAN DENBURGH, Occ. Pap. California Acad. Sci., vol. 10, 1922, pp. 859–862 (part), pl. 95, fig. 2.

Sonora occipitalis annulata STICKEL, Bull. Chicago Acad. Sci., vol. 6, 1941, pp. 136–137.

Chionactis occipitalis annulatus STICKEL, Proc. Biol. Soc. Washington, vol. 56, 1943, p. 128.

Type.—U. S. N. M. No. 2105.

Type locality.—Colorado Desert.

Range.—Southwestern Arizona, extreme southeastern California, probably extreme northeastern Baja California, and probably extreme northwestern Sonora.

CHIONACTIS OCCIPITALIS PALAROSTRIS (Klauber)

Sonora palarostris KLAUBER, Trans. San Diego Soc. Nat. Hist., vol. 8, 1937, pp. 363–365.

Sonora occipitalis palarostris STICKEL, Bull. Chicago Acad. Sci., vol. 6, 1941, pp. 137–138.

Chionactis occipitalis palarostris STICKEL, Proc. Biol. Soc. Washington, vol. 56, 1943, p. 128.

Type.—L. M. Klauber Coll. (San Diego, Calif.) No. 26771.

Type locality.—Five miles south of Magdalena, Sonora.

Range.—Northern and central Sonora.

Genus CLELIA Fitzinger[16]

Clelia FITZINGER, Neue Classification der Reptilien, 1826, p. 56.

Duberria FITZINGER, *idem* (type, *Coluber plumbeus* Wied).

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[16] See footnote for *Oxyrhopus*, p. 103.

Dciropeda FITZINGER, Systema reptilium, 1843, p. 25 (type, *Coluber clelia* Daudin).

Brachyruton DUMÉRIL, BIBRON, and DUMÉRIL, Erpétologie générale, vol. 7, pt. 2, 1854, pp. 1002–1004[17] (type, *Brachyruton cloelia* Duméril, Bibron, and Duméril = *C. clelia* Daudin).

Genotype.—*Clelia daudinii* Fitzinger (substitute name for *Coluber clelia* Daudin).

Range.—Coasts of central Mexico to South America.

Species.—Two races, belonging to one species, occur in Mexico. Total number of forms uncertain.

KEY TO MEXICAN FORMS OF CLELIA

1. Dorsal scales with a black tip, visible even in dark-colored adults. clelia clelia

   Dorsal scales uniform pink (white), without black markings (except at nape) in young; adults also presumably without black tips on dorsal scales -- clelia immaculata

CLELIA CLELIA CLELIA (Daudin)

Coluber clelia DAUDIN, Histoire naturelle . . . des reptiles, vol. 6, An. 11, 1803, pp. 330–331, pl. 78.

Pseudoboa clelia DITMARS, Snakes of the world, 1931, pl. 28.

Clelia clelia clelia SMITH, Proc. U. S. Nat. Mus., vol. 92, 1942, p. 394; vol. 93, 1943, pp. 402–403.

Scolecophis scytalinus COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866, (1867), p. 320 (type locality, San Juan Bautista, Tabasco; type, U. S. N. M. No. 6581).

Type.—Originally cotypes in Daudin's and Levaillant's collections, now apparently lost.

Type locality.—Surinam.

Range.—Central Veracruz and Tehuantepec southward on both coasts into South America, including the Yucatán Peninsula (known definitely in Mexico from only five localities: Vicinity of Escuintla, *Chiapas;* El Barrio and Tehuantepec, *Oaxaca;* San Juan Bautista, *Tabasco;* Potrero Viejo, *Veracruz;* and "Yucatan").

CLELIA CLELIA IMMACULATA Smith

Clelia clelia immaculatus SMITH, Proc. U. S. Nat. Mus., vol. 92, 1942, p. 394.

Type.—U. S. N. M. No. 24966.

Type locality.—Guadalajara, Jalisco.

Range.—Known only from Guadalajara, *Jalisco*, and Paso del Río, *Colima.*

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[17] Authorship for this work frequently is misquoted. According to the title pages, volumes 7 (both parts), 9, and the atlas are by A. M. C. Duméril, G. Bibron, and A. Duméril, while all the other volumes were written by A. M. C. Duméril and G. Bibron.

Genus COLUBER Linnaeus

Coluber Linnaeus, Systema naturae, ed. 10, vol. 1, 1758, p. 216.—Ortenburger, Mem. Univ. Michigan Mus., vol. 1, 1928, pp. 174–234, figs. 34–64, pls. 27–36, (generic revision).—Stuart, Occ. Pap. Mus. Zool. Univ. Michigan No. 284, 1934, pp. 2–4 (remarks on status of genus).—Smith, Copeia, 1942, No. 2, p. 87.—Inger and Clark, Copeia, 1943, No. 3, pp. 141–145.

Bascanion Baird and Girard, Catalogue of North American reptiles, 1853, p. 93.

Genotype.—*Coluber constrictor* Linnaeus.

Range.—United States and southern British Columbia southward into extreme northern Mexico; Oaxaca and Colima; northern China, Mongolia, Korea.

Species.—Three species are known, two of these occurring in Mexico. One species (*constrictor*) includes six subspecies, only one of which is known to enter Mexico in the north. The other species are monotypic. One occurs in Asia only.

KEY TO MEXICAN FORMS OF COLUBER

1. Scale rows 15 throughout body, or less[18]-------------------------- oaxaca
Scale rows 17–15------------------------------ constrictor stejnegerianus

COLUBER CONSTRICTOR STEJNEGERIANUS (Cope)

Zamenis stejnegerianus Cope, Amer. Nat., vol. 29, 1895, p. 678; Ann. Rep. U .S. Nat. Mus., 1898 (1900), pp. 797–798, fig. 172.

Coluber constrictor stejnegerianus Mulaik and Mulaik, Copeia, 1942, pp. 13–15.

Zamenis conirostris Cope, Amer. Nat., vol. 29, 1895, p. 679 (type locality, Matamoros, Tamaulipas; type, U. S. N. M. No. 1768); Ann. Rep. U. S. Nat. Mus., 1898 (1900), pp. 798–799, fig. 173.

Type.—U. S. N. M. No. 17065.

Type locality.—Cameron County, Tex.

Range.—Extreme southern Texas and northern Tamaulipas (known in Mexico only from Matamoros, *Tamaulipas*).

COLUBER OAXACA Jan

Coluber oaxaca Jan, Elenco sistematico degli Ofidi, 1863, p. 63.—Ortenburger, Mem. Univ. Michigan Mus., vol. 1, 1928, pp. 227–234.

Type.—Mus. Hist. Nat. Paris.

Type locality.—"Mexico," Oaxaca implied.

Range.—Coastal areas near the Pacific Ocean from Oaxaca to Colima (the only authentic record is from Colima, *Colima*, and perhaps

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[18] The scale rows of this species are possibly 15–15 normally; the specimen reported by Dunn (Copeia, 1934, p. 214) from Colima, which we have seen (M.C.Z. No. 37155), does reduce the scale rows to 11 posteriorly as described, but a short distance in front of the anus (about 23 mm.) the paravertebral and third rows, which were dropped anterior to this point, are restored in full size and form, bringing the scale row count to 15 at the extreme posterior part of the body. This is an unusual condition, and we infer that the dropping of the scale rows, not the restoration of them at the anus, is abnormal.

"*Oaxaca*"; doubtful records are from Huasteca Potosina, *Querétaro* [Dugès, La Naturaleza, ser. 2, vol. 2, 1896, p. 481], and perhaps "Tehuantepec" [Sumichrast, Bull. Soc. Zool. France, vol. 5, 1880, p. 182]).

Genus CONIOPHANES Hallowell

Coniophanes Hallowell, *in* Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 248.—Bailey, Pap. Michigan Acad. Sci. Arts Lett., vol. 24, pt. 2, 1938 (1939), pp. 1–48, pls. 1–3 (generic revision).

Glaphyrophis Jan, Elenco sistematico degli Ofidi, 1863, p. 54 (type, *G. pictus* Jan [=*C. b. bipunctatus*]).

Hydrocalamus Cope, Proc. Amer. Philos. Soc., vol. 22, 1884 (1885), pp. 176–177 (type, *Homalopsis quinquevittatus* Duméril and Bibron).

Genotype.—*Coronella fissidens* Günther.

Range.—Extreme southern United States and central Guerrero south on both coasts to South America, thence southward to Peru.

Species.—Thirteen species and subspecies are known from Mexico; the genus as a whole contains 17 species and subspecies.

KEY TO MEXICAN FORMS OF CONIOPHANES[19]

1. Dorsal scale rows 23 to 25 ____ 2
   Dorsal scale rows 21 or fewer ____ 3
2. Lateral dark stripes broad (4 to 5 scale rows), sharply defined on lower edge ____ **piceivittis**
   Lateral dark stripe narrow (½ to 1½ scale rows), shading gradually to ventrals ____ **schmidti**
3. Belly with a double row of large, regular dark spots, one pair to a ventral; dorsals in 21 rows; chin mottled ____ 4
   Belly immaculate or with numerous small black spots; chin usually spotted, but not mottled (unless head is black) ____ 5
4. Ventrals fewer than 150; no conspicuous lateral dark stripe. **bipunctatus biseriatus**
   Ventrals more than 150; a conspicuous lateral dark stripe ____ **quinquevittatus**
5. Head and neck black for about 10 scales, followed by a cream collar; body unicolor, red in life ____ **lateritius**
   Head and neck not black ____ 6
6. Dorsals in 19 to 21 rows; no light temporal stripe through top of orbit; anal ridges in mature males; hemipenis single, spinous, capitate ____ 7
   Dorsals in 17 to 19 rows (very rarely 21); a light temporal stripe through top of orbit; anal ridges absent; hemipenis bifurcate, spineless ____ 10
7. A regular row of relatively large dark spots near ends of ventrals, in addition to other dark flecks that may or may not be present; dorsolateral white stripe extending posteriorly a considerable distance on neck; inner dark border of dorsolateral tail stripes absent on posterior part of body, present only on tail ____ **fissidens fissidens**
   No regular row of relatively large dark spots near ends of ventrals; belly with small flecks of black, unspotted; dorsolateral white stripes very short (no more than twice length of head), or absent posteriorly,

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[19] Adapted from Bailey, *op. cit.*, pp. 13–14.

or, inner dark border of dorsolateral tail stripes present on posterior part of body ---------- 8

8. A series of dark spots between lateral and middorsal light lines; dark border on inner edge of dorsolateral stripes distinct on body as well as tail; scales in 21 rows ---------- fissidens punctigularis

Color not as described; markings dim, except (in young) a middorsal dark line ---------- 9

9. Ventrals fewer (120 to 122 in known males); caudals more numerous (81, male); ventrals minus caudals lower (41, male) -- fissidens dispersus

Ventrals more numerous (126 to 133 in males); caudals fewer (64 to 76 in males); ventrals minus caudals higher (51 to 65 in males). fissidens proterops

10. Body nearly unicolor, reddish brown; dorsals in 17 rows ---------- meridanus

Body with a lateral and, usually, a middorsal stripe; dorsals in 19 rows -- 11

11. Middorsal stripe one and two half scale rows wide ---------- imperialis imperialis

Middorsal stripe if present not more than one scale row wide ---------- 12

12. Middorsal stripe very narrow and continuous; lateral dark stripe distinctly darker on upper half; ventrals minus caudals, males 50–60, females 58–71 ---------- imperialis copei

Middorsal stripe variable, broken into spots, missing, or continuous but about one scale row wide; lateral dark stripe usually uniformly dark (except anteriorly); ventrals minus caudals lower than in *imperialis copei* except in Campeche and Quintana Roo ---------- imperialis clavatus

CONIOPHANES BIPUNCTATUS BISERIATUS Smith

Coniophanes bipunctatus biseriatus SMITH, Proc. Biol. Soc. Washington, vol. 53, 1940, pp. 59–60; Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 403–404.

Type.—U.S.N.M. No. 108595.

Type locality.—Palenque, Chiapas.

Range.—Atlantic slopes from central Veracruz to northern central Chiapas and western Campeche (authentic records in Mexico are from Orizaba, Potrero Viejo, and Tierra Colorada, *Veracruz;* Palenque, *Chiapas;* and Pacaitun, *Campeche*).

CONIOPHANES FISSIDENS FISSIDENS (Günther)

Coronella fissidens GÜNTHER, Catalogue of the snakes in the British Museum, 1858, p. 36.

Coniophanes fissidens fissidens BAILEY, Pap. Michigan Acad. Sci. Arts Lett., vol. 24, pt. 2, 1938 (1939), pp. 14–23, pl. 1, fig. 4, pl. 3, fig. 1, map text fig. 2 (part).—SMITH, Proc. U. S. Nat. Mus., vol. 91, 1941, p. 104, map fig. 33.

Type.—Brit. Mus. Nat. Hist., 8 cotypes.

Type locality.—Mexico.

Range.—Atlantic slopes from extreme southern Veracruz to Colombia, avoiding high mountains and the Yucatán Peninsula (records in Mexico are from Teapa, *Tabasco*, and San Andrés Tuxtla, *Veracruz*).

CONIOPHANES FISSIDENS DISPERSUS Smith

Coniophanes fissidens dispersus SMITH, Proc. U. S. Nat. Mus., vol. 91, 1941, pp. 106–107, map fig. 33.

Type.—E. H. Taylor–H. M. Smith Coll. No. 5531.

Type locality.—El Limoncito, Guerrero.

Range.—Probably Nayarit to Oaxaca, but definitely known only from central Guerrero (the type locality), southern Michoacán (Carrizal), and southeastern Oaxaca (Tapanatepec).

CONIOPHANES FISSIDENS PROTEROPS Cope

C.[oniophanes] proterops Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 249.

Coniophanes fissidens proterops Smith, Proc. U. S. Nat. Mus., vol. 91, 1941, pp. 105–106, map fig. 33.

Type.—U.S.N.M. No. 5285.

Type locality.—Vicinity of Jalapa, Veracruz.

Range.—Central Veracruz (seven localities).

CONIOPHANES FISSIDENS PUNCTIGULARIS Cope

Coniophanes punctigularis Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 248.

Coniophanes fissidens punctigularis Smith, Proc. U. S. Nat. Mus., vol. 91, 1941, pp. 107–109, map fig. 33.

Type.—Acad. Nat. Sci. Phila. No. 3742.

Type locality.—Honduras.

Range.—Pacific slopes from the Isthmus of Tehuantepec to Honduras (authentic Mexican records are from several localities in southern Chiapas: Chicharras, vicinity of Escuintla, Siltepec, and Tonalá).

CONIOPHANES IMPERIALIS IMPERIALIS (Kennicott)

Taeniophis imperialis Kennicott, *in* Baird, Rep. U. S. Mex. Bound. Surv., vol. 2, 1859, Rept., p. 23, pl. 19, fig. 1.

Glaphyrophis lateralis Jan, Arch. Zool. Anat. Fis., vol. 2, 1863, pp. 304–305, 328 (type locality restricted to Tampico; type in Milan Mus., 3 cotypes).

Coniophanes imperialis imperialis Cope, Ann. Rep. U. S. Nat. Mus., 1898 (1900), p. 1090.—Bailey, Pap. Michigan Acad. Sci. Arts Lett., vol. 24, pt. 2, 1938 (1939), pp. 34–35, pl. 1, fig. 1, map text fig. 5.

Type.—U.S.N.M. No. 2060.

Type locality.—Matamoros, Tamaulipas (*cf.* Bailey, *loc. cit.*).

Range.—Extreme southern Texas to northern Veracruz (known from three or four localities in each of the states of Tamaulipas and Veracruz).

CONIOPHANES IMPERIALIS CLAVATUS (Peters)

Dromicus clavatus Peters, Monatsb. Akad. Wiss. Berlin, 1864, p. 388.

Coniophanes imperialis clavatus Bailey, Occ. Pap. Mus. Zool. Univ. Michigan, No. 362, 1937, p. 5; Pap. Michigan Acad. Sci. Arts Lett., vol. 24, pt. 2, 1938 (1939), pp. 35–42, pl. 1, fig. 2, map text fig. 5.—Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 405.

Type.—Berlin Mus.

Type locality.—Mexico.

Range.—Central Veracruz to northern Honduras, on the Atlantic coast, including the Yucatán Peninsula (known from several localities in the states of Campeche [Champotón, Ciudad del Carmen, Balchacaj], Chiapas [Palenque], Oaxaca [Tetela], Quintana Roo [south of Catmis], Tabasco [Tenosique], Veracruz [Cerro del Gallo, Cuatotalapam, Estación Forestal, Mandinga, Potrero Viejo, Tierra Colorada, Veracruz], and Yucatán).

CONIOPHANES IMPERIALIS COPEI Hartweg and Oliver

Coniophanes imperialis copei HARTWEG and OLIVER, Occ. Pap. Mus. Zool. Univ. Michigan, No. 390, 1938, p. 4.—BAILEY, Pap. Michigan Acad. Sci. Arts Lett., vol. 24, pt. 2, 1938 (1939), pp. 42–43, pl. 1, fig. 3, pl. 3, fig. 3, map text fig. 5.—SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 406–407.

Type.—Univ. Mich. Mus. Zool. No. 82666.

Type locality.—Between Cerro Guengola and Tehuantepec, Oaxaca.

Range.—Pacific slopes of the Isthmus of Tehuantepec, Oaxaca (known from several localities in the vicinity of Tehuantepec and Santiago, *Oaxaca*).

CONIOPHANES LATERITIUS Cope

Coniophanes lateritius COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861 (1862), p. 524.—BAILEY, Pap. Michigan Acad. Sci. Arts Lett., vol. 24, pt. 2, 1938 (1939), pp. 28–29, map text fig. 3.—TAYLOR, Univ. Kansas Sci. Bull., vol. 27, 1942, pp. 125–126, fig. 5 (head scales and pattern).

Tachymenis melanocephala PETERS, Monatsb. Akad. Wiss. Berlin, 1869, p. 876 (type locality, possibly, state of Puebla; type in Berlin Mus.).

Type.—Lost. Neotype E. H. Taylor–H. M. Smith Coll. No. 5198.

Type locality.—Guadalajara, Jalisco.

Range.—Foothills probably from Nayarit to Oaxaca, in semiarid regions (definitely recorded from only three localities: Jalisco [Guadalajara], north-central Guerrero [Huajintlan, south of Puente de Ixtla, Morelos], and possibly southern Puebla [Matamoros?]).

CONIOPHANES MERIDANUS Schmidt and Andrews

Coniophanes meridanus SCHMIDT and ANDREWS, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, No. 18, 1936, pp. 179–180.—BAILEY, Pap. Michigan Acad. Sci. Arts Lett., vol. 24, pt. 2, 1938 (1939), pp. 43–44, map text fig. 5.

Type.—Field Mus. Nat. Hist. No. 19427.

Type locality.—Mérida, Yucatán.

Range.—Northern portion of the Yucatán Peninsula (definitely recorded only from the type locality and Cobá, *Quintana Roo*).

CONIOPHANES PICEIVITTIS Cope

Coniophanes piceivittis COPE, Proc. Amer. Philos. Soc., vol. 11, 1869 (July), pp. 149–150.—BAILEY, Pap. Michigan Acad. Sci. Arts Lett., vol. 24, pt. 2, 1938 (1939), pp. 29–31, pl. 2, fig. 2, map text fig. 4.

Tachymenis taeniata PETERS, Monatsb. Akad. Wiss. Berlin, 1869 (Dec.), pp. 876–877 (type locality, possibly Puebla; type in Berlin Mus.).

Type.—U.S.N.M. No. 30265, two cotypes.

Type locality.—Chihuitán, Oaxaca.

Range.—Central Oaxaca to Bebedero, Costa Rica, on the west coast, and central Honduras (known from El Barrio, Chihuitán, Juchitán, Tapanatepec, and Tehuantepec, *Oaxaca*).

CONIOPHANES QUINQUEVITTATUS (Duméril, Bibron, and Duméril)

Homalopsis quinque-vittatus DUMÉRIL, BIBRON, and DUMÉRIL, Erpétologie générale, vol. 7, pt. 2, 1854, pp. 975–977.

Coniophanes quinquevittatus BAILEY, Pap. Michigan Acad. Sci. Arts Lett., vol. 24, pt. 2, 1938 (1939), pp. 26–28, pl. 1, fig. 6, map text fig. 3.

Calopisma quinquevittatum mexicana JAN, Arch. Zool. Anat. Fis., vol. 3, 1865, pp. 55, 244 (type locality, Mexico; type in Mus. Hist. Nat. Paris).

Hydrops lubricus COPE, Proc. Acad. Nat. Sci. Philadelphia, 1871, p. 217 (type locality, Coatzacoalcos River, Veracruz; type, U. S. N. M. No. 61182).

Type.—Presumably in Mus. Hist. Nat. Paris.

Type locality.—Unknown.

Range.—Southern Veracruz to northern Guatemala (not known from any precise locality in Mexico; the most exact is "Coatzacoalcos River, *Veracruz*").

CONIOPHANES SCHMIDTI Bailey

Coniophanes schmidti BAILEY, Occ. Pap. Mus. Zool. Univ. Michigan, No. 362, 1937, pp. 1–3; Pap. Michigan Acad. Sci. Arts Lett., vol. 24, pt. 2, 1938 (1939), pp. 31–32, pl. 2, fig. 1, pl. 3, fig. 2, map text fig. 4.

Type.—Univ. Mich. Mus. Zool. No. 73043.

Type locality.—Chichen Itzá, Yucatán.

Range.—Central Petén, Guatemala, to the tip of the Yucatán Peninsula (in Mexico known from the type locality and Mayapán, *Yucatán*).

Genus CONOPHIS Peters

Conophis PETERS, Monatsb. Akad. Wiss. Berlin, 1860, p. 519.—SMITH, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 117–124 (a brief, incomplete review of species of genus); Proc. U. S. Nat. Mus., vol. 92, 1942, pp. 394–395 (addenda to preceding).

Genotype.—*Conophis vittatus* Peters.

Range.—Jalisco and Veracruz southward on both coasts to Costa Rica; Brazil.

Species.—Five subspecies, distributed among three species, occur in Mexico. In addition, one species (*taeniatus* Hensel) from Brazil is referred to the genus; another from Costa Rica (*nevermanni* Dunn) belongs to it; and a race of *lineatus* (*dunni* Smith) and of *pulcher* (*pulcher* Cope) occur in Central America.

KEY TO MEXICAN FORMS OF CONOPHIS

1. First scale row not pigmented on any part of body; chin and labial border white; usually seven supralabials-------------------- 2

First scale row pigmented on part or all of body; chin and labial border pigmented; usually eight supralabials-------------------- 3

2. Four dark stripes posteriorly, median pair separated by one and two half scale rows-------------------- vittatus vittatus

Three dark stripes posteriorly; if a light median area is present in median dark stripe, it is less than one scale row in width-------- vittatus viduus

3. Dorsolateral dark stripe that passes through eye involving upper half of second scale row; a dark stripe on paravertebral scale rows at least posteriorly; stripes spotted in appearance; markings on chin and labial borders dim; ventrals completely unpigmented------------ pulcher similis

Dorsolateral dark stripe that passes through eye becoming indistinct on body, or restricted to third and fourth or fourth rows, not involving second row; no stripes on paravertebral rows on any part of body---- 4

4. Stripes disappearing on nape, not or but faintly visible posteriorly. lineatus concolor

Stripes visible throughout length of body-------------------- lineatus lineatus

CONOPHIS LINEATUS LINEATUS (Duméril, Bibron, and Duméril) [20]

Tomodon lineatus Duméril, Bibron, and Duméril, Erpétologie générale, vol. 7, pt. 2, 1854, pp. 936–938, pl. 73.—Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 10, 1886, p. 643, pl. 38, fig. 5.

Conophis lineatus lineatus Smith, Journ. Washington Acad. Sci., vol. 31, 1941, p. 122.

Type.—Mus. Hist. Nat. Paris.

Type locality.—Mexico.

Range.—Atlantic coast of Mexico, from central Veracruz southward (definitely recorded only from Paso del Macho and Veracruz, *Veracruz*).

CONOPHIS LINEATUS CONCOLOR Cope

Conophis concolor Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866 (1867), pp. 318–319.

Conophis lineatus concolor Smith, Journ. Washington Acad. Sci., vol. 31, 1941, p. 122.

Type.—U.S.N.M. No. 12368, two cotypes.

Type locality.—Yucatán.

Range.—Yucatán Peninsula and southward in Central America to Honduras (known in Mexico only from several localities in *Yucatán*, and Champotón, *Campeche*).

CONOPHIS PULCHER SIMILIS Bocourt

Conophis pulcher similis Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 10, 1886, pp. 647–648.—Smith, Proc. U. S. Nat. Mus., vol. 92, 1942, p. 395.

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[20] The related Central American subspecies, *Conophis lineatus dunni* Smith, is well illustrated on pl. 20 (lower fig.) of Ditmars's "Snakes of the World," 1931, under the name *Liophis decoratus*. Another Central American species, *Conophis pulcher pulcher* Cope, is shown on pls. 26 (lower fig.) and 27 of the same work, under the name *Conophis lineatus*.

Conophis pulcher plagosus Smith, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 121–122 (type locality, Tonalá, Chiapas; type, U.S.N.M. No. 109707).

Type.—Mus. Hist. Nat. Paris.

Type locality.—Unknown.

Range.—Pacific slopes of Chiapas and possibly Guatemala. Known definitely only from Tonalá, *Chiapas.*

CONOPHIS VITTATUS VITTATUS Peters

Conophis vittatus Peters, Monatsb. Akad. Wiss. Berlin, 1860, pp. 519–520, pl., fig. 3.—Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 10, 1886, p. 644 (part?), pl. 38, fig. 7.—Taylor and Smith, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 252–253, pl. 23, fig. 1.

Conophis vittatus vittatus Smith, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 119–120.

Conophis sumichrastii sumichrastii Cope, Journ. Acad. Nat. Sci. Philadelphia, ser. 2, vol. 8, 1876, p. 137 (type locality, Tehuantepec and Guadalajara, restricted to the latter; cotypes, U.S.N.M. Nos. 29123, 30258; lectotype, No. 29123).

Type.—Berlin Mus.

Type locality.—Unknown.

Range.—Pacific coast from Nayarit south into Oaxaca (known from several localities in the states of Colima, Guerrero, Jalisco, Michoacán, Morelos, and Oaxaca).

CONOPHIS VITTATUS VIDUUS Cope

Conophis sumichrastii viduus Cope, Journ. Acad. Nat. Sci. Philadelphia, ser. 2, vol. 8, 1876, p. 137.

Conophis vittatus viduus Smith, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 120–121.

C.[*onophis*] *v.*[*ittatus*] *videns* Cope, Ann. Rep. U. S. Nat. Mus., 1898 (1900), p. 1095 (presumably a *lapsus calamus* for *v. viduus;* however, a diagnosis is given and the type locality stated as "Tehuantepec", type not designated but by inference U.S.N.M. No. 30259, the type of *viduus* Cope).

Type.—U.S.N.M. No. 30259.

Type locality.—Tehuantepec, Oaxaca.

Range.—Pacific slopes of the Isthmus of Tehuantepec (recorded from Chivela, El Barrio, Salina Cruz, Tapanatepec, and Tehuantepec, *Oaxaca*).

Genus CONOPSIS Günther

Conopsis Günther, Catalogue of the snakes in the British Museum, 1858, p. 6.—Taylor and Smith, Univ. Kansas Sci. Bull., vol. 28, 1942, pp. 325–337, figs. 1–3, pl. 30, figs. 2, 3, pl. 31, fig. 1, pl. 32, figs. 2–4, pl. 35, figs. 4, 5, 9 (generic revision).

Exorhina Jan, Arch. Zool. Anat. Fis., vol. 2, 1862, p. 61 (type, *E. maculata* Jan).

Epirhina Jan, *ibid.*, pp. 62–63 (type, *E. tessellata* Jan).

Genotype.—*Conopsis nasus* Günther.

Range.—Central Mexico, from southern Chihuahua to central Michoacán, eastward to southern central San Luis Potosí, and Morelos.

Species.—Two.

KEY TO SPECIES OF CONOPSIS

1. Internasals absent, rarely indicated; dorsal pattern consisting of a distinct median row of dark spots; venter with paired or irregularly arranged dark spots; caudals in males 30 to 38, average 33 (92.2 percent less than 37), in females 22 to 31, average 25 (95.1 percent less than 28)------- nasus

   Internasals present, rarely absent; dorsal pattern not consisting of a median row of spots, but typically of two paravertebral rows, the spots of which are sometimes expanded laterally to give a somewhat cross-banded effect; venter spotted or not; caudals 36 to 41, average 38.6, in males (7.4 percent less than 37), 27 to 34, average 30.5, in females (7.7 percent less than 28)------------------------------------ biserialis

CONOPSIS BISERIALIS Taylor and Smith

Conopsis biserialis Taylor and Smith, Univ. Kansas Sci. Bull., vol. 28, 1942, pp. 333–337, figs. 2, 3, 11 (map), pl. 31, fig. 1, pl. 35, fig. 9.

Type.—E. H. Taylor–H. M. Smith Coll. No. 23648.

Type locality.—Ten miles west of Villa Victoria, México.

Range.—An area in the southwestern part of the central Mexican plateau, from southern Distrito Federal west to eastern Michoacán (recorded from Distrito Federal and the states of Morelos, México, and Michoacán).

CONOPSIS NASUS Günther

Conopsis nasus Günther, Catalogue of the snakes in the British Museum, 1858, p. 6.—Taylor and Smith, Univ. Kansas Sci. Bull., vol. 28, 1942, pp. 329-332, figs. 1, 11 (map), pl. 30, figs. 2, 3, pl. 32, figs. 2–4, pl. 35, fig. 4.

Oxyrhina (*Exorhina*) *maculata* Jan, Arch. Zool. Anat. Fis., vol. 2, 1862, pp. 60–61 (type locality, Mexico; cotypes in Milan, Paris, and Vienna Mus., and the Westphal collection in Montpellier).

Epirhina tessellata Jan, *ibid.*, pp. 62–63 (type locality, Mexico; type in Milan Mus.).

Conopsis nasus heliae Terron, Anal. Inst. Biol. Mex., vol. 1, 1930, pp. 175–176, fig. 1 (type locality, San Luis Potosí, San Luis Potosí; type presumably in Instituto de Biología, Mexico City).

Type.—Brit. Mus. Nat. Hist.

Type locality.—Unknown ("California," by error).

Range.—Plateau of central Mexico from southern Chihuahua to central Michoacán, eastward to southern central San Luis Potosí, and Distrito Federal (recorded from numerous localities in Distrito Federal and the states of Chihuahua, Durango, Guanajuato, Jalisco, México, Michoacán, San Luis Potosí, and Zacatecas).

Genus DENDROPHIDION Fitzinger

Dendrophidion Fitzinger, Systema reptilium, 1843, p. 26.—Stuart, Occ. Pap. Mus. Zool. Univ. Michigan, No. 236, 1932, pp. 5–6.

Genotype.—*Herpetodryas dendrophis* Schlegel.

Range.—Southern Mexico to northern South America.

Species.—One in Mexico, three others in Central America; the number in South America is uncertain.

DENDROPHIDION VINITOR Smith

?*Dendrophidion dendrophis* Bocourt, Le Naturaliste, ser. 2, No. 47, 1889, pp. 46–48, figs. 1–4.

Dendrophidium dendrophis Dugès, La Naturaleza, ser. 2, vol. 2, 1892, pp. 100–101, pl. 5 (in color).

Dendrophidion vinitor Smith, Proc. Biol. Soc. Washington, vol. 54, 1941, pp. 73–76; Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 415–416, fig. 13.

Type.—U.S.N.M. No. 110662.

Type locality.—Piedras Negras, Petén, Guatemala.

Range.—Humid Atlantic slopes from central Veracruz and Oaxaca to Panama; known at present only from foothill regions (known in Mexico only from three localities: Motzorongo, *Veracruz;* La Gloria, *Oaxaca;* and Teapa, *Tabasco*).

Genus DIADOPHIS Baird and Girard

Diadophis Baird and Girard, Catalogue of North American reptiles, 1853, p. 112.—Blanchard, Bull. Chicago Acad. Sci., vol. 7, No. 1, 1942, pp. 1–444, figs. 1–26, tables 1–17, maps 1–4 (monograph).

Genotype.—*Coluber punctatus* Linnaeus.

Range.—Central Veracruz and Michoacán northward on the plateau into the United States.

Species.—Fifteen species and subspecies, five of which occur in Mexico.[21]

KEY TO MEXICAN FORMS OF DIADOPHIS[22]

1. Light ventral color extending onto first row of dorsal scales at least anteriorly________________ 2
Light ventral color not extending onto first row of dorsal scales; ventrals 164 to 183 in males, 201 to 207 in females; collar present__________ dugesii

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[21] *Ablabes occipitalis* Günther (Catalogue of the snakes in the British Museum, 1858, p. 29), described on the basis of two cotypes, one from Mexico and one from United States, is considered by Blanchard (*op cit.*) as a synonym of the eastern United States race, *D. p. punctatus*. The name is restricted by Boulenger (Catalogue of the snakes in the British Museum, vol. 2, 1894, p. 207) to the cotype from "Mexico," which he selects as "type." The locality data apparently are in error, however, for no *Diadophis* is known from Mexico with 15 scale rows and 149 ventrals; Blanchard believes the type probably came from South Carolina or Georgia.

[22] Adapted from Blanchard, *op. cit.*

2. In females, ventrals 224 to 239; in males, ventrals 204 to 225, and difference between ventral and caudal counts 139 or more______________________ 3
   In females, ventrals 191 to 209; in males, ventrals 182 to 209, and difference between ventral and caudal counts 141 or less________________________ 4
3. Neck ring present, two to four scales in width_______________ regalis laetus
   Neck ring absent or much reduced____________________________ regalis regalis
4. Neck ring obsolete, its edges indefinite; ventrals heavily marked with complete or interrupted transverse black bars; scale rows 15 posteriorly in both sexes____ amabilis anthonyi
   Neck ring usually distinct, sometimes interrupted medially; ventrals dotted; scale rows 13 posteriorly in all males and in four-fifths of females. amabilis similis

DIADOPHIS AMABILIS ANTHONYI Van Denburgh and Slevin

Diadophis anthonyi Van Denburgh and Slevin, Proc. California Acad. Sci., ser. 4, vol. 13, No. 1, 1923, p. 1.

Diadophis amabilis anthonyi Blanchard, Bull. Chicago Acad. Sci., vol. 7, No. 1, 1942, pp. 47–48, map 1.

Type.—Calif. Acad. Sci. No. 56766.

Type locality.—South Todos Santos Island, Baja California.

Range.—The same.

DIADOPHIS AMABILIS SIMILIS Blanchard

Diadophis amabilis similis Blanchard, Occ. Pap. Mus. Zool. Univ. Michigan, No. 142, 1923, pp. 4–5, 8; Bull. Chicago Acad. Sci., vol. 7, No. 1, 1942, pp. 41–47, figs. 10, 11, map 1.

Type.—Mus. Zool. Univ. Mich. No. 57897.

Type locality.—San Diego, Calif.

Range.—From southwestern San Bernardino County south into the San Pedro Mártir range in Baja California, and San Martín Island,[23] Baja California.

DIADOPHIS DUGESII Villada

Diadophis punctatus dougesii[24] Villada, La Naturaleza, vol. 3, 1875, pp. 226–230, pl.

Diadophis regalis dougesii Taylor and Smith, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 240–241, fig. 1.—Taylor, *ibid.*, vol. 26, 1939 (1940), p. 455.

Diadophis dugesii Blanchard, Bull. Chicago Acad. Sci., vol. 7, No. 1, 1942, pp. 51–54, fig. 13, map 2.—Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 417.

Type.—Location unknown.

Type locality.—Potreros de Balbuena, near Mexico (city), Distrito Federal.

Range.—The central plateau from central Veracruz (Mirador) westward to Nayarit, northward to Guanajuato, south to Distrito Federal

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[23] Specimens from this island may be distinct (*cf.* Blanchard, *op. cit.*, 1942, p. 46).

[24] The spelling is corrected in the list of errata at the end of the volume.

(known from a few localities in the states of Guanajuato, Hidalgo, Jalisco, Michoacán, Nayarit, Veracruz, and Distrito Federal).

*DIADOPHIS REGALIS REGALIS Baird and Girard

Diadophis regalis Baird and Girard, Catalogue of North American reptiles, 1853, p. 115.

Diadophis regalis regalis Cope, Proc. U. S. Nat. Mus., vol. 14, 1892, p. 615.—Blanchard, Occ. Pap. Mus. Zool. Univ. Michigan, No. 142, 1923, pp. 1–2.—Woodbury, Bull. Univ. Utah, vol. 21, No. 5, 1931, pp. 68–69, figs. 24, 25.—Blanchard, Bull. Chicago Acad. Sci., vol. 7, No. 1, 1942, pp. 60–65, fig. 15, map 3.

Diadophis regalis blanchardi Schmidt and Smith, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1944, pp. 89–90 (type locality, Basin, Chisos Mountains, Tex.; type, U. S. Nat. Park Serv. No. 161).[25]

Type.—U. S. N. M. No. 2062.

Type locality.—"Sonora."

Range.—Central Texas, including the Great Bend region, west to southeastern Arizona and perhaps extreme northern Sonora and Chihuahua, northward into southwestern Utah and Colorado.

DIADOPHIS REGALIS LAETUS Jan

Diadophis punctatus laetus Jan, Arch. Zool. Anat. Fis., vol. 2, 1863, pp. 262–265.

Diadophis regalis laetus Blanchard, Bull. Chicago Acad. Sci., vol. 7, No. 1, 1942, pp. 55–60, fig. 14, map 3.

Diadophis regalis arizonae Blanchard, Occ. Pap. Mus. Zool. Univ. Michigan, No. 142, 1923, pp. 2–3 (type locality, Sabino Canyon, Santa Catalina Mountains, Ariz.; type, U.S.N.M. No. 62568).

Type.—Heidelberg Mus.

Type locality.—Unknown, but probably Tucson, Ariz.

Range.—Eastern Sonora and western Chihuahua to central Ariachi, and Mojaráchic, *Chihuahua;* Santa Magdalena, *Sonora;* and are represented by specimens now available: Colonia Dublan, Basuriachi, and Mojaráchic, *Chihuahua;* Santa Magdalena, *Sonora;* and "San Luis Potosi").

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[25] Schmidt and Smith in this paper suggest that the name *regalis* must apply to the southwestern population of the species, because its type locality is situated more or less in that area (see Blanchard's map); and that therefore *laetus* and *arizonae* are synonyms of *regalis*, while the eastern population is to be called *r. blanchardi*. The importance of the neck ring as a subspecific character is minimized, and emphasis placed upon size and number of ventrals.

This suggestion, while perhaps valid, does not aid in allocation of specimens to the several supposed forms, for the ventral counts overlap broadly and size differences are not usually apparent; these are the only distinctions suggested by Schmidt and Smith. We suggest as an equally plausible possibility that the forms are not subspecies at all but rather are distinct species, and that the character of the collar is the chief criterion distinguishing the species. Still other alternative possibilities are suggested by Schmidt and Smith. In view of the paucity of data on these snakes, we feel justified in retaining Blanchard's arrangement as at least the most workable, if not the most nearly correct one, proposed to date.

Genus DIPSAS Laurenti[26]

Dipsas LAURENTI, Specimen medicum exhibens synopsin reptilium . . ., 1768, p. 89.

Sibynomorphus FITZINGER, Systema reptilium, 1843, p. 27 (type, *Dipsas mikani* Schlegel).

Leptognathus DUMÉRIL, Mém. Acad. Inst. France, vol. 23, 1853, p. 467 (type, *Dipsas pavonina* Schlegel; a homonym of *Leptognathus* Swainson, 1839 [fishes]).

Cochliophagus DUMÉRIL, *ibid.*, pp. 467–468 (type, *C. inaequifasciatus* Duméril and Bibron, of "Amérique méridionale").

Mesopeltis COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866, p. 318 (type, *M. sanniolus* Cope).

Asthenognathus BOCOURT, Bull. Soc. Philom. Paris, ser. 7, vol. 8, 1884, p. 141 (type, *Petalognathus multifasciatus* Bocourt [=*D. dimidiatus*]).

Genotype.—*Dipsas indica* Laurenti.

Range.—From Colima on the Pacific coast and from the Isthmus of Tehuantepec on the Atlantic southward to northern Argentina.

Species.—About 45; 7 occur in Mexico.[27]

KEY TO MEXICAN SPECIES OF DIPSAS

1. Scales in 13 rows medially ---------- gaigeae

Scales in 15 rows medially ---------- 2

2. Mental followed by a single, azygous scale ---------- 3

Mental followed by one or more infralabials, in contact on midventral line ---------- 4

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[26] There is much divergence of opinion regarding the generic distinctness of groups to which the names *Tropidodipsas, Sibon, Sibynomorphus,* and *Dipsas* (as well as others, extralimital and not bearing upon the names for Mexican groups) have been applied. The number of species and variety of form involved are extraordinary and lead to the belief that several genera can and should be recognizable. Yet Parker (Ann. Mag. Nat. Hist., ser. 9, vol. 18, 1926, pp. 205–206) has shown rather conclusively that the few species referred to *Dipsas* (cf. Amaral, Mem. Inst. Butantan, vol. 4, 1929, pp. 200–201) show a closer relationship to various species of *Sibynomorphus* (*cf.* Amaral, *op. cit.*, pp. 195–200) than to each other and that the single character (presence or absence of pterygoid teeth) supposed to distinguish the two genera is variable within several species. In 1936 Amaral (Mem. Inst. Butantan, vol. 10, p. 127) was not prepared to accept Parker's conclusions, but in the absence of any tangible means for distinguishing the two groups, as previously defined, we are compelled to synonymize them. Prado (Mem. Inst. Butantan, vol. 14, 1940, p. 13) is of like opinion.

Although the genus *Sibon* (as of Amaral, *op. cit.*, 1929, p. 194) is clearly a close approach of colubrines and dipsadines (as defined by Amaral, Proc. New England Zool. Club, vol. 8, 1923, pp. 95–96), the broad articulation of the pterygoids with the quadrate is not matched by any species of *Dipsas* (including *Sibynomorphus*), all of which have short pterygoids that extend straight posteriorly instead of diverging obliquely toward the quadrate, at least so far as is known in the literature. Parker's (*loc. cit.*) mention of a relatively very large number of pterygoid teeth (20) in *Dipsas catesbyi* does not, however, correspond well with the concept of a short pterygoid in *Dipsas*. It may well be that *Sibon* too belongs in *Dipsas*, but evidence available at present requires its retention as a separate genus.

Tropidodipsas is much more compact and homogeneous than *Dipsas* and is therefore more certainly a natural group than the latter, widely variable, genus. It has no single distinctive character but is clearly distinct from *Dipsas* on the basis of the normal pterygoids and from *Sibon* through the absence of enlarged vertebral scales.

Thus for the groups that enter Mexico we retain the names *Sibon* and *Tropidodipsas* as distinct genera in their status quo, while we combine *Dipsas* and *Sibynomorphus*.

[27] See Species Inquirendae, p. 200.

3. Dorsal surface with spots; ventrals 150 to 156, caudals 55 to 65____ sanniolus
Body and tail with complete bands; ventrals and caudals more numerous, 185 to 200, 98 to 126, respectively________________________________ dimidiatus
4. At least two infralabials in contact behind mental______________________ 6
One infralabial in contact behind mental________________________________ 5
5. Vertebral scales strongly enlarged; anterior chin shields little if any longer than broad____ elegans
Vertebral scales somewhat enlarged__________________________________ brevis
6. Vertebral scales strongly enlarged_______________________________ maxillaris
Vertebral scales somewhat enlarged_____________________________ brevifacies

DIPSAS BREVIFACIES (Cope)

Tropidodipsas brevifacies Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866, p. 127.

Leptognathus brevifacies Mocquard, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 16, 1908, pp. 891–892, pl. 72, fig. 7.

Sibon brevifacies Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 470.

Dipsadomorus fasciatus Bocourt, Bull. Soc. Philom. Paris, ser. 7, vol. 8, 1884, pp. 135–136 (type locality, Yucatán; type in Mus. Hist. Nat. Paris).

Leptognathus torquatus Cope, Proc. Amer. Philos. Soc., vol. 22, 1884 (1885), p. 172 (substitute name for *Leptognathus fasciatus* (Bocourt), preoccupied).

Type.—U.S.N.M. No. 24886.

Type locality.—Yucatán.

Range.—The northern and eastern portions of the Yucatán Peninsula (only definite localities in Mexico are several in *Yucatán* and Ciudad del Carmen, *Campeche*).

DIPSAS BREVIS (Duméril, Bibron, and Duméril)

Leptognathus brevis Duméril, Bibron, and Duméril, Erpétologie générale, vol. 7, pt. 1, 1854, pp. 476–477.—Mocquard, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 16, 1908, p. 889.

Type.—Lost.

Type locality.—Mexico.

Range.—Unknown.

DIPSAS DIMIDIATUS (Günther)

Leptognathus dimidiata Günther, Ann. Mag. Nat. Hist., ser. 4, vol. 9, 1872, p. 31.

Mesopeltis dimidiatus Günther, Biologia Centrali-Americana, Rept., 1894, pp. 143–144, pl. 51, figs. A, B (in color).

Sibon dimidiatus Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 470.

Petalognathus multifasciatus Bocourt, Bull. Soc. Philom. Paris, ser. 7, vol. 8, 1884, p. 139 (type locality, Verapaz, Guatemala; type in Paris Mus.).

Type.—Brit. Mus. Nat. Hist. No. 66–4–16, 6.

Type locality.—Mexico.

Range.—Atlantic foothills of Chiapas and Guatemala[28] (no definite localities in Mexico are recorded; it is known, however, from Piedras Negras, *Guatemala*).

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[28] It is inferred that *Dipsas grandoculis* (Müller, Verh. Naturf. Ges. Basel, vol. 8, 1887, pp. 271–272, pl. 1, fig. 2; type locality, Mazatenango, Guatemala) may be a valid species, since it is from Pacific slopes. It may well occur in adjacent Chiapas.

DIPSAS ELEGANS (Boulenger)

Leptognathus elegans BOULENGER, Catalogue of the snakes in the British Museum, vol. 3, 1896, pp. 452–453, pl. 23, fig. 3.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Tehuantepec.

Range.—Known only from the type locality.

DIPSAS GAIGEAE (Oliver)

Sibynomorphus gaigeae OLIVER, Occ. Pap. Mus. Zool. Univ. Michigan, No. 360, 1937, pp. 22–23.

Type.—Univ. Mich. Mus. Zool. No. 80221.

Type locality.—Paso del Río, Colima.

Range.—Known only from the type locality.

DIPSAS MAXILLARIS (Werner) [29]

Leptognathus maxillaris WERNER, Zool. Jahrb., vol. 28, 1909, pp. 279–280.—AMARAL, Mem. Inst. Butantan, vol. 4, 1929, p. 29.

Type.—Brussels Mus. No. 120.

Type locality.—Tabasco, Mexico.

Range.—Known only from the type locality.

DIPSAS SANNIOLUS (Cope)

Mesopeltis sanniolus COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866 (1867), p. 318.

Leptognathus sanniolus MOCQUARD, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 16, 1908, p. 894, pl. 73, fig. 3.

Sibon sanniolus SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 470.

Type.—U. S. N. M. No. 6564.

Type locality.—Yucatán.

Range.—The northern and eastern portions of the Yucatán Peninsula (known in Mexico from several localities in Yucatán).

Genus DRYADOPHIS Stuart

Dryadophis STUART, Copeia, No. 1, 1939, p. 55; Misc. Publ. Mus. Zool. Univ. Michigan, No. 49, 1941, pp. 1–106, pls. 1–4, figs. 1–13, maps 1–4 (generic revision).

Genotype.—*Coluber boddaerti* Sentzen.

Range.—The coasts of Mexico from Colima and southern Tamaulipas southward to Argentina.

Species.—Eighteen species and subspecies, five occurring in Mexico.

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[29] Amaral (*loc. cit.*) believes this species a synonym of *D. elegans*; we have seen no specimens but by description alone conclude that Werner's specimen appears sufficiently different to be recognized.

KEY TO MEXICAN FORMS OF DRYADOPHIS

1. Dorsal scales largely outlined with black in adults; subcaudals 116 to 140. melanolomus melanolomus
   Dorsal scales not mostly outlined with black; adults nearly unicolor above; subcaudals 120 or less ---------- 2
2. Ventrals usually 179 or less; young cross-barred or with lateral light lines. melanolomus veraecrucis
   Ventrals usually 180 or more; young cross-barred ---------- 3
3. Markings on chin, gular region and anterior part of belly very poorly defined, except in young; dorsal scales uniform light olive in adults, practically without evidence of remnants of the dark juvenile markings ---------- 4
   Chin and anterior part of belly checkered very prominently in young, moderately so in adults; dorsal scales with fairly distinct black edging. melanolomus slevini
4. Caudals 103 to 112 ---------- melanolomus tehuanae
   Caudals 113 to 118 ---------- melanolomus stuarti

DRYADOPHIS MELANOLOMUS MELANOLOMUS (Cope)

Masticophis melanolomus Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 20, 1868, p. 134.

Dryadophis melanolomus melanolomus Stuart, Misc. Publ. Mus. Zool. Univ. Michigan, No. 49, 1941, pp. 88–91, pl. 4, fig. 4 (body pattern), map 4.

Type.—U. S. N. M. No. 24985.

Type locality.—Yucatán.

Range.—Northern and eastern portions of the Yucatán Peninsula (known in Mexico from several localities in Yucatán).

DRYADOPHIS MELANOLOMUS SLEVINI (Stuart)

Eudryas slevini Stuart, Occ. Pap. Mus. Zool. Univ. Michigan, No. 254, 1933, p. 9.

Dryadophis melanolomus slevini Stuart, Misc. Publ. Mus. Zool. Univ. Michigan, No. 49, 1941, pp. 93–95, pl. 4, fig. 6 (body pattern), map 4.—Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 418.

Type.—Calif. Acad. Sci. No. 58679.

Type locality.—María Madre Island, Tres Marías Islands.

Range.—Tres Marías Islands (known only from María Madre and María Magdalena).

DRYADOPHIS MELANOLOMUS STUARTI Smith

Dryadophis melanolomus stuarti Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 418–420.

Type.—U. S. N. M. No. 110924.

Type locality.—Acapulco, Guerrero.

Range.—Pacific slopes from Colima southward to Chiapas, exclusive of the Isthmus of Tehuantepec (recorded from the states of Colima, Guerrero, and Chiapas).

DRYADOPHIS MELANOLOMUS TEHUANAE Smith

Dryadophis melanolomus tehuanae Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 420–421.

Type.—U. S. N. M. No. 110917.

Type locality.—Cerro Guengola, near Tehuantepec, Oaxaca.

Range.—Pacific slopes of the Isthmus of Tehuantepec, in humid zones.

DRYADOPHIS MELANOLOMUS VERAECRUCIS Stuart

Eudryas boddaerti mexicanus Stuart, Occ. Pap. Mus. Zool. Univ. Michigan, No. 254, 1933, pp. 8–9.—Taylor, Univ. Kansas Sci. Bull., vol. 26, 1939 (1940), pp. 456–458, fig. 4 (head scales and head pattern).

Dryadophis melanolomus veraecrucis Stuart, Misc. Publ. Mus. Zool. Univ. Michigan, No. 49, 1941, pp. 91–93, pl. 4, fig. 6 (body pattern), map 4 (substitute name for *mexicanus* Stuart, a homonym of *Herpetodryas mexicanus* Bocourt[30]).—Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 421.

Type.—Brit. Mus. Nat. Hist. spec. *b* under var. A of *Drymobius boddaertii* in Boulenger, Catalogue of the snakes in the British Museum, vol. 2, 1894, p. 12.

Type locality.—Zacuapan, Veracruz.

Range.—Humid coast and foothills on Atlantic slopes from southern Tamaulipas to Tabasco (known from several localities in the states of Tamaulipas, Veracruz, Oaxaca, and Tabasco).

Genus DRYMARCHON Fitzinger

Drymarchon Fitzinger, Systema reptilium, 1843, p. 26.—Smith, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 466–481, figs. 1–2, tables 1–9.

Georgia Baird and Girard, Catalogue of North American reptiles, 1853, p. 92 (type, *Coluber couperi* Holbrook).

Geoptyas Steindachner, Sitzb. Akad. Wiss. Wien, vol. 55, 1867, p. 271 (type, *G. collaris* Steindachner).

Morenoa Dugès, Proc. Zool. Soc. London, 1905, pp. 517–518 (type, *M. orizabensis* Dugès).

Genotype.—*Coluber corais* Daudin (=*C. corais* Boie).

Range.—Southern United States, on the Atlantic coast, and southern Sinaloa on the Pacific coast, southward along both coasts into South America.

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[30] Bocourt's (Mission scientifique au Mexique et dans l'Amérique centrale, Rept. livr. 12, 1890, p. 722) name was proposed inadvertently in his synonymy of *Drymobius* (*Eudryas*) *laevis* Fischer by recording Jan's designation (never published) on some of the Paris Museum's specimens. Although Jan obviously used the name for Mexican specimens, fortunately his intentions need not be considered; if they were the name might well replace one of those more recently proposed. Bocourt's use of the name, not Jan's intention, determines the allocation of it. Since Bocourt described both Guatemalan and Mexican specimens (the latter either *slevini* or *veraecrucis*, or both), to avoid confusion the name *H. mexicanus* Bocourt is restricted to the Guatemalan specimens (*laevis*).

Another name proposed by Bocourt (*op. cit.*, pp. 721–722, pl. 51, fig. 1) and not previously allocated, is *Drymobius* (*Eudryas*) *boddaerti* var. *californiensis*. Although pattern and number of ventrals are rather like those of some subspecies of *melanolomus*, the name appears to be based upon a specimen of *D. b. boddaerti*.

Species.—One, with eight subspecies, six occurring in Mexico; extralimital are *couperi* of southeastern United States and *corais* of South America.

KEY TO MEXICAN FORMS OF DRYMARCHON

1. Subcaudals less than 68 (55 to 65); ventrals 193 or less; scale rows usually 14 near anus---------- **corais erebennus**
   Subcaudals more than 68 (69 to 83); scale rows usually 15 near anus---- 2
2. Anterior portion of body light brown, extreme posterior portion and tail black; three vertical black streaks on posterior edges of subocular labials and one on posterior edge of seventh labial, never any on preocular labials (either above or below); lateral gular scales never black-tipped; young lighter anteriorly than posteriorly, like adults, but with very broad, light, chevron-shaped bands covering two scale lengths. **corais melanurus**
   Entire body and tail light brown above, or all black; light bands in young specimens narrow, covering about one scale length (?)---------- 3
3. Entire body brown above, and no darker posteriorly than anteriorly; ventral surface of tail and posterior portion of body dark, but not black; young (and some adults) with distinct, longitudinal, short black streaks on anterior part of body---------- **corais unicolor**
   Entire body nearly uniform black above; belly black on posterior portion, subcaudal surface black---------- 4
4. Light areas on supralabial region white or cream, very sharply defined from the black borders; anterior portion of belly mostly light, salmon pink---------- 5
   Most of head, including sides, black; most of belly black, the light portions cream or white, not reddish---------- **corais orizabensis**
5. Ventrals over 202; caudals 77 or more---------- **corais cleofae**
   Ventrals less than 202; caudals 78 or less---------- **corais rubidus**

DRYMARCHON CORAIS CLEOFAE Brock

Drymarchon corais cleofae Brock, Copeia, 1942, No. 4, pp. 249–250.

Type.—Stanford Mus. Nat. Hist. No. 9447.

Type locality.—María Cleofa Island, Tres Marías Islands.

Range.—The Tres Marías Islands (recorded from María Madre, María Magdalena, and María Cleofa Islands).

DRYMARCHON CORAIS EREBENNUS (Cope)

Spilotes erebennus Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 342.

Drymarchon corais erebennus Smith, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 478–479, map fig. 2.

Drymarchon corais melanurus Schmidt and Davis (*nec* Duméril and Bibron), Field book of snakes, 1941, pp. 134–135 (part), fig. 33 (body pattern).

Drymarchon corais obsoletus Schmidt and Owens, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1944, p. 110.[31]

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[31] Contrary to the statement of Smith (*loc. cit.*), *Georgia obsoleta* Baird and Girard (Catalogue of North American reptiles, 1853, pp. 158–159) is not a new name; it is simply an allocation of Say's name, *Coluber obsoletus* (=*Elaphe obsoleta*), to Baird and Girard's

Type.—U.S.N.M. No. 1862 and Acad. Nat. Sci. Phila. No. 3921, cotypes.

Type locality.—Eagle Pass, Tex.

Range.—Central-southern Texas south to extreme northern Veracruz and central Hidalgo (known in Mexico from several localities in the states of Coahuila, Hidalgo, San Luis Potosí, Tamaulipas, and Veracruz).

DRYMARCHON CORAIS MELANURUS (Duméril, Bibron, and Duméril)[32]

Spilotes melanurus DUMÉRIL, BIBRON, and DUMÉRIL, Erpétologie générale, vol. 7, pt. 1, 1854, pp. 224–225.

Drymarchon corais melanurus RUTHVEN, Misc. Publ. Mus. Zool. Univ. Michigan, No. 8, 1922, p. 65.—SCHMIDT and WALKER, Publ. Field Mus. Nat. Hist., zool. ser., vol. 24, 1943, pp. 307–308.

Drymarchon corais melanocercus SMITH, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 473–474, map fig. 2 (substitute name for *Spilotes melanurus* Duméril, Bibron, and Duméril, a secondary homonym of *Coluber melanurus* Schlegel, 1837 [=*Elaphe melanurus* (Schlegel)] by virtue of the inclusion of both names in *Spilotes* by Gray [Catalogue of the snakes in the British Museum, 1858, p. 97]).

Type.—Mus. Hist. Nat. Paris.

Type locality.—Mexico.

Range.—Atlantic coast in Mexico southward from northern Veracruz, including Yucatán, through Central America to northern Colombia (recorded from several localities in the Mexican states of Chiapas, Oaxaca, Tabasco, Veracruz, and Yucatán).

DRYMARCHON CORAIS ORIZABENSIS (Dugès)

Morenoa orizabensis DUGÈS, Proc. Zool. Soc. London, 1905, pp. 517–518, fig. 77.

Drymarchon corais orizabensis SMITH, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 477–478, map fig. 2.

Type.—Museo Alfredo Dugès, Univ. Guanajuato, Guanajuato, Mexico.

Type locality.—Orizaba, Veracruz.

Range.—Atlantic foothills (not the coast) from near the Isthmus of Tehuantepec northward about to Mirador, Veracruz (known from but few localities in the state of Veracruz).

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genus *Georgia*, proposed on an earlier page (p. 92) of the same work, with *G. couperi* as genotype (by monotypy). That Baird and Girard placed their initials after citation of the name *Georgia obsoleta* finds a parallel on p. 148, where they place *Tropidonotus transversus* Hallowell in *Nerodia*, citing the name as *Nerodia transversa*, B. & G. Apparently they took credit for any new combination. These new combinations cannot be taken as new names even if the specimens described are of a different (even new) species (as in the case of *Georgia obsoleta* Baird and Girard) from that to which the original combination applied. Article 31 of the International Code of Zoological Nomenclature clearly rules out names resting upon errors of identification.

[32] *Drymarchon corais melanocercus* Smith to those who suppress secondary homonyms.

DRYMARCHON CORAIS RUBIDUS Smith

Drymarchon corais rubidus Smith, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 474–476, map fig. 2 (part).

Type.—U.S.N.M. No. 46430.

Type locality.—Rosario, Sinaloa.

Range.—Southern Sinaloa to the Isthmus of Tehuantepec, on Pacific slopes (recorded from various localities in the states of Colima, Guerrero, Jalisco, Michoacán, Morelos, Oaxaca, Puebla, Sinaloa, and Sonora).

DRYMARCHON CORAIS UNICOLOR Smith

Drymarchon corais unicolor Smith, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 470–472, map fig. 2.

Type.—U.S.N.M. No. 110865.

Type locality.—La Esperanza, near Escuintla, Chiapas.

Range.—Extreme southern Chiapas to Nicaragua, on Pacific slopes.

Genus DRYMOBIUS Fitzinger

Drymobius Fitzinger, Systema reptilium, 1843, p. 26.—Smith, Proc. U. S. Nat. Mus., vol. 92, 1942, pp. 380–384 (Mexican subspecies of *margaritiferus*).

Genotype.—*Herpetodryas margaritiferus* Schlegel.

Range.—Extreme southern Texas and southern Sonora south on both coasts into South America and to southern Peru and northeastern Venezuela.

Species.—Two species, one with three subspecies, occur in Mexico; two others occur in Central and South America.

KEY TO MEXICAN FORMS OF DRYMOBIUS

1. Adults uniform green above, belly not marked with dark color; ventrals 152–170, caudals 112–125 .... chloroticus
   Adults with each dorsal scale dark-edged; ventrals or caudals frequently dark-marked; ventrals 140–159; caudals 101–131 (142?) 2
2. All or most of posterior edges of subcaudals dark or black 3
   All or most of posterior edges of subcaudals white (subcaudal surface unmarked) 4
3. Anterior edges of median dorsal scales blue (in adult specimens), white (faded specimens) or gray (young specimens), color well differentiated from a black tip of scale .... margaritiferus margaritiferus
   Anterior edges of median dorsal scales black, color completely surrounding a central light spot .... margaritiferus fistulosus
4. Sides of head in temporal region no darker than general tone of dorsal surface of nape; light spots in centers of scales diffuse, gray-brown, stippled .... margaritiferus occidentalis
   An elongate dark (black) area on either side of head behind eye, much darker than general tone of dorsal surface of nape; light spots in centers of scales well defined, blue or tinged with orange, not or very slightly stippled .... margaritiferus fistulosus

DRYMOBIUS CHLOROTICUS (Cope)

Dendrophidium chloroticum Cope, Proc. Amer. Philos. Soc., vol. 23, 1886, p. 278.
Drymobius chloroticus Cope, U. S. Nat. Mus. Bull. 32, 1887, p. 69.—Stuart, Copeia, 1933, No. 1, p. 10.—Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 423.

Type.—U.S.N.M. No. 6755.

Type locality.—Cobán, Guatemala.

Range.—Extreme southern Veracruz and Chiapas southward into Guatemala (known from only three localities in Mexico: San Andrés Tuxtla, *Veracruz*, and the hills near Escuintla and Siltepec, *Chiapas*).

DRYMOBIUS MARGARITIFERUS MARGARITIFERUS (Schlegel)

Herpetodryas margaritiferus Schlegel, Essai sur la physionomie des serpens, vol. 2, 1837, p. 184.
Drymobius margaritiferus [*margaritiferus*] Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 12, 1890, pp. 716–718, pl. 49, fig. 2.—Smith, Proc. U. S. Nat. Mus., vol. 92, 1942, p. 383.

Type.—Unknown.

Type locality.—Unknown. Stated New Orleans in error.

Range.—Southern Texas southward along the Atlantic coast into Central America, including the southern and eastern portions of the Yucatán Peninsula; known on Pacific slopes only in the vicinity of Tonalá, Chiapas (numerous records in Mexico are from the states of Campeche, Chiapas, Coahuila, Hidalgo, Nuevo León, Puebla, Quintana Roo, San Luis Potosí, Tabasco, Tamaulipas, Veracruz, and Yucatán).

DRYMOBIUS MARGARITIFERUS FISTULOSUS Smith

Drymobius margaritiferus fistulosus Smith, Proc. U. S. Nat. Mus., vol. 92, 1942, pp. 383–384.

Type.—U.S.N.M. No. 51480.

Type locality.—Miramar, Nayarit.

Range.—Southern Sonora southward along Pacific slopes to the Isthmus of Tehuantepec (several locality records are from the states of Colima, Guerrero, Jalisco, Michoacán, Morelos, Nayarit, Oaxaca, Sonora, and Sinaloa).

DRYMOBIUS MARGARITIFERUS OCCIDENTALIS Bocourt

Drymobius margaritiferus occidentalis Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 12, 1890, p. 718.—Smith, Proc. U. S. Nat. Mus., vol. 92, 1942, p. 383.

Type.—Mus. Hist. Nat. Paris.

Type locality.—Near Volcán Atitlán, Guatemala.

Range.—Pacific slopes of Guatemala and central and southern Chiapas.

Genus ELAPHE Fitzinger

Elaphe Fitzinger, *in* Wagler, Descriptiones et icones amphibiorum, pt. 3, 1833, text to and pl. 27.—Smith, Copeia, 1941, No. 3, pp. 132–136, figs. 1, 2 (key to Mexican species).

Genotype.—Elaphe parreysii Fitzinger (=*quatuorlineata*).

Range.—Europe, Asia, the Malay Archipelago, and central eastern United States southward to Costa Rica.

Species.—Eight species and subspecies occur in Mexico; nine others, occurring in the United States, do not reach Mexico. The Americas accordingly have a total of 17 races. An indefinite number, probably equally as many, occur in the Eastern Hemisphere.

KEY TO MEXICAN FORMS OF ELAPHE

1. No labials entering eye; a series of subocular scales present ---- **subocularis**
One or more labials entering eye; no suboculars ---- 2
2. Three labials entering eye[33] ---- 3
One or two labials entering eye ---- 4
3. Spots extending laterally to second or third scale row, partially eliminating lateral series of spots; belly heavily pigmented posteriorly, tail uniform dark below; 23 scale rows posteriorly ---- **flavirufa matudai**
Spots extending laterally to sixth or seventh scale row; lateral spots regular, large; belly and tail white; 21 scale rows (usually) posteriorly. **flavirufa flavirufa**
4. Scale rows 29 or less at midbody ---- 5
Scale rows 31 or more ---- 6
5. Adults and subadults unspotted, with broad stripes (sometimes faint); young with over 50 spots on body; head unmarked; subcaudals usually more numerous, 85 to 95 in females, 92 to 103 in males ---- **bairdi**
Spots present throughout life, less than 50 on body; head with distinct, large, alternating light and dark V-shaped marks; subcaudals usually fewer ---- **laeta laeta**
6. Spotted ---- 7
Gray, not spotted ---- 8
7. Subcaudals 73 to 109; blotches present and distinct throughout life, 51 or less on body ---- **triaspis**
Subcaudals 93 to 126; blotches present only in young, 57 to 58 on body. **chlorosoma**
8. Supralabials 10 or (usually) 11, one entering orbit: subcaudals 83 to 88 ---- **rosaliae**[34]
Supralabials 8 or 9, two entering orbit; subcaudals 93 to 126 ---- **chlorosoma**

ELAPHE BAIRDI (Yarrow)

Coluber bairdi Yarrow, *in* Cope, U. S. Nat. Mus. Bull. 17. 1880, p. 41.

Elaphe bairdi Stejneger and Barbour, A check list of North American amphibians and reptiles, ed. 1, 1917, p. 82.—Smith, Copeia, 1938, No. 3, p. 150.—

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[33] Some specimens of *triaspis* enter this category, but these may be distinguished from *flavirufa*, with which they are most easily confounded, by the distinctly smaller eye.

[34] The young of this species are not known, but they may be spotted.

Schmidt and Davis, Field book of snakes, 1941, p. 144, fig. 38.—?Mulaik and Mulaik, Copeia, 1941, No. 4, pp. 263–264.

Type.—U.S.N.M. No. 10403.

Type locality.—Fort Davis, Tex.

Range.—Western Texas in the Great Bend of the Rio Grande southward probably to southern Coahuila (in Mexico recorded only from the Carmen Mountains, extreme northern Coahuila).

ELAPHE CHLOROSOMA (Günther)

Coluber chlorosoma Günther, Biologia Centrali-Americana, Rept., 1894, pp. 115–116, pl. 41.

Elaphe chlorosoma Stejneger and Barbour, A check list of North American amphibians and reptiles, ed. 1, 1917, p. 82.—Smith, Copeia, 1941, No. 3, pp. 134–135.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Atoyac and Amula in Guerrero and San Ramón in Jalisco.

Range.—Mountains of Pacific drainage from southeastern Arizona southward to the Isthmus of Tehuantepec (recorded from the states of Chihuahua, Colima, Guanajuato, Guerrero, Jalisco, Michoacán, Oaxaca, Zacatecas, and perhaps Querétaro and San Luis Potosí).

ELAPHE FLAVIRUFA FLAVIRUFA (Cope)

Coluber flavirufus Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866 (1867), p. 319.

Elaphe flavirufa flavirufa Smith, Copeia, 1941, No. 3, p. 132, fig. 2.

Type.—U. S. N. M. No. 6566.

Type locality.—Yucatán.

Range.—Atlantic slopes from central Tamaulipas southward into Guatemala and British Honduras, and on Pacific slopes at the Isthmus of Tehuantepec; Corn Islands, Nicaragua (recorded from several localities in Mexico in the states of Campeche, Oaxaca, Querétaro, Tamaulipas, Veracruz, and Yucatán).

ELAPHE FLAVIRUFA MATUDAI Smith

Elaphe flavirufa matudai Smith, Copeia, 1941, No. 3, pp. 132–134, fig. 1.

Type.—U.S.N.M. No. 110303.

Type locality.—Salto de Agua, 1,200 feet on Cerro Ovando, near Escuintla, Chiapas.

Range.—Known only from the type locality; occurs on Pacific slopes of southern Chiapas and probably Guatemala.

ELAPHE LAETA LAETA (Baird and Girard)

Scotophis laetus Baird and Girard, Catalogue of North American reptiles, 1853, pp. 77–78.

Elaphe laeta Stejneger and Barbour, A check list of North American amphibians and reptiles, ed. 1, 1917, p. 82.—Ditmars, Reptiles of North America, 1936, p. 221, pl. 67.—Schmidt and Davis, Field book of snakes, 1941, p. 146, fig. 39 (midbody pattern).

Elaphe laeta laeta Woodbury and Woodbury, Proc. Biol. Soc. Washington, vol. 55, 1942, pp. 139–140.

Type.—Lost.

Type locality.—Red River, Ark.

Range.—East of the Rocky Mountains from southern Nebraska southward through Texas to southern Coahuila, southern central Chihuahua, and central Tamaulipas (recorded from a few scattered localities in the Mexican states of Chihuahua, Coahuila, Durango, Nuevo León, and Tamaulipas).

ELAPHE ROSALIAE (Mocquard)

Coluber rosaliae Mocquard, Nouv. Arch. Mus. Hist. Nat. Paris, ser. 4, vol. 1, 1899, pp. 321–323, pl. 12, fig. 1.

Elaphe rosaliae Stejneger and Barbour, A check list of North American amphibians and reptiles, ed. 1, 1917, p. 84.

Type.—Mus. Hist. Nat. Paris.

Type locality.—Santa Rosalía, Baja California.

Range.—Central and southern Baja California.

ELAPHE SUBOCULARIS (Brown)[35]

Coluber subocularis Brown, Proc. Acad. Nat. Sci. Philadelphia, vol. 53, 1901, pp 492–495, pl. 29.

Elaphe subocularis Stejneger and Barbour, A check list of North American amphibians and reptiles, ed. 1, 1917, p. 84.—Smith, Ann. Carnegie Mus., vol. 27, 1939, p. 317.—Schmidt and Davis, Field book of snakes, 1941, p. 153, fig. 41.

Elaphe sclerotica Smith, Copeia, 1941, No. 3, pp. 135–136 (substitute name for *Coluber subocularis* Brown, a secondary homonym of *Bascanion subocularis* Cope 1866 [=*Masticophis m. mentovarius* Duméril, Bibron, and Duméril, a species referred to *Coluber* by Garman, Mem. Mus. Comp. Zool., vol. 8, 1883, pp. 42, 147]).

Type.—Acad. Nat. Sci. Phila. No. 13733.

Type locality.—Davis Mountains, Jeff Davis County, Tex.

Range.—Western Texas in the Great Bend of the Rio Grande southward to southern Coahuila (recorded in Mexico only from Cuatro Ciénegas and near Saltillo, *Coahuila*).

ELAPHE TRIASPIS (Cope)

Coluber triaspis Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866, p. 128.

Elaphe triaspis Amaral, Mem. Inst. Butantan, vol. 4, 1929, p. 159.—Ditmars, Snakes of the world, 1931, pl. 17 (lower fig.).

Pityophis intermedius Boettger, Ber. Offenb. Ver. Nat., Nos. 22–23, 1883, p. 148 (type locality, Mexico; type in Heidelberg Mus.).

Type.—U.S.N.M. No. 24903.

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[35] *Elaphe sclerotica* Smith to those who suppress secondary homonyms.

Type locality.—Belize (= British Honduras).

Range.—The Yucatán Peninsula south to Costa Rica (recorded from several localities in *Yucatán*, and Chilón, *Chiapas*, in Mexico).

Genus ENULIUS Cope

Enulius COPE, Proc. Amer. Philos. Soc., vol. 11, 1871, p. 559.—DUNN, Proc. Acad. Nat. Sci. Philadelphia, vol. 89, 1938, pp. 415–418 (review of genus).

Genotype.—*Enulius murinus* Cope [=*Enulius flavitorques* (Cope)].

Range.—Central-western Mexico (Michoacán) south to Colombia.

Species.—Four forms are recognizable, two occurring in Mexico. One of them (*unicolor*) may be a race of *flavitorques* (Guatemala to Colombia), but the other two (*slateri*, *sumichrasti*) are very distinct. *E. flavitorques* may well occur in southern Chiapas.

KEY TO MEXICAN SPECIES OF ENULIUS

1. Length of portion of rostral visible from above nearly or quite equal to its distance from frontal; in lateral view, upper edge of snout nearly straight ---------- sumichrasti

   Length of portion of rostral visible from above two-thirds or less its distance from frontal; in lateral view, upper edge of snout distinctly down-curved ---------- unicolor

ENULIUS SUMICHRASTI Bocourt

Enulius sumichrasti BOCOURT, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 9, 1883, p. 538, pl. 31, fig. 6.—TAYLOR and SMITH, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 247–249.

Type.—Mus. Hist. Nat. Paris.

Type locality.—Isthmus of Tehuantepec.

Range.—Pacific slopes of Mexico east of the Isthmus of Tehuantepec (known only from the vicinity of Escuintla and Tonalá, *Chiapas*, and possibly Cacoprieto, *Oaxaca*).

ENULIUS UNICOLOR (Fischer)

Geophis unicolor FISCHER, Abh. Nat. Ver. Bremen, vol. 7, 1882, pp. 227–228, pl. 15, figs. 1–3.

Enulius unicolor TAYLOR and SMITH, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), p. 247.—TAYLOR, *ibid.*, vol. 26, 1939 (1940), p. 453.—SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 427.

Geagras longicaudatus COPE, Amer. Nat., 1884, p. 162 (type locality, Tehuantepec; type in Mus. Hist. Nat. Paris) (a new name for *Enulius murinus* Bocourt [*nec* Cope], Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 9, 1883, pp. 537–538, pl. 35, fig. 9).

Type.—Bremen Mus.

Type locality.—Mexico.

Range.—Michoacán, Morelos, and central Guerrero south to the Isthmus of Tehuantepec (recorded from a few localities in the states of Chiapas, Guerrero, Michoacán, Morelos, and Oaxaca).

Genus EXELENCOPHIS Smith

Exelencophis SMITH, Zoologica, vol. 27, 1942, p. 33.

Genotype.—*Tantilla nelsoni* Slevin.

Range.—María Madre Island, Tres Marías Islands.

Species.—One.

EXELENCOPHIS NELSONI (Slevin)

Tantilla nelsoni SLEVIN, Proc. California Acad. Sci., ser. 4, vol. 15, 1926, pp. 200–201.

Exelencophis nelsoni SMITH, Zoologica, vol. 27, 1942, p. 23.

Type.—Lost; originally Calif. Acad. Sci. No. 58680.

Type locality.—María Madre Island, Tres Marías Islands.

Range.—The type locality.

Genus FICIMIA Gray

Ficimia GRAY, Catalogue of the snakes in the British Museum, 1849, p. 80.—SMITH and TAYLOR, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 356–368, figs. 3–5, 8–14, 17.

Amblymetopon GÜNTHER, Catalogue of the snakes in the British Museum, 1858, p. 7 (type, *A. variegatum* Günther).

Genotype.—*Ficimia olivacea* Gray.

Range.—Extreme southern Texas and Guerrero southward on both coasts to Guatemala on the Pacific and Honduras on the Atlantic.

Species.—Five, all occurring in Mexico.

KEY TO FORMS OF FICIMIA

1. No dorsal markings whatever; usually two postoculars; internasals usually absent .... olivacea olivacea
   Dorsal bands present; one or two postoculars; internasals present or absent 2
2. Dorsal bands very narrow (a scale length or less), separated from each other by about three times their own length; one postocular; no internasals .... olivacea streckeri
   Dorsal bands longer (one and one-half or more scale lengths), separated from each other by no more than one and one-half times their own length; two postoculars usually; internasals present or absent 3
3. Bands on body 21 to 35; internasals usually present .... publia
   Bands on body 43 or more; internasals present or absent 4
4. Internasals present .... ruspator
   Internasals absent .... variegata

FICIMIA OLIVACEA OLIVACEA Gray

Ficimia olivacea GRAY, Catalogue of the snakes in the British Museum, 1849, p. 80.—GÜNTHER, Biologia Centrali-Americana, Rept., 1893, p. 98 (part), pl. 35, fig. B (not fig. C).—SMITH and TAYLOR, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 366–367, figs. 4, 9, 13 (head scales and head pattern).

Type.—Brit. Mus. Nat. Hist.

Type locality.—Mexico.

Range.—Central and southern Veracruz in coastal regions and low hills (not to coast in extreme southern Veracruz); northern Oaxaca (known only from four localities in the states of Oaxaca and Veracruz).

FICIMIA OLIVACEA STRECKERI Taylor

Ficimia streckeri TAYLOR, Copeia, 1931, No. 1, pp. 5–7.—SMITH and TAYLOR, Journ. Washington Acad. Sci., vol. 31, 1941, p. 368, figs. 3, 8, 14 (head scales and head pattern).—MULAIK and MULAIK, Amer. Midl. Nat., vol. 29, 1943, pp. 796–797.

Ficimia olivacea streckeri SMITH, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1944, p. 139.

Type.—Kansas Univ. Mus. No. 4140.

Type locality.—Three miles east of Rio Grande City, Tex.

Range.—Extreme southern Texas to northern Veracruz (known in Mexico only from Santiago, *Nuevo León;* Jacala, *Hidalgo;* and Tuxpan, *Veracruz*).

FICIMIA PUBLIA Cope

Ficimia publia COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866, p. 126.—SMITH and TAYLOR, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 362–364.—SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 429.

Ficimia ornata BOCOURT, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 9, 1883, pp. 571–572, pl. 35, fig. 10 (type locality, Mexico; type in Berlin Mus.).

Type.—U.S.N.M. Nos. 16427–8, two cotypes.

Type locality.—Yucatán.

Range.—From the Isthmus of Tehuantepec to Honduras on the Atlantic and to southern Guatemala on the Pacific; west to Guerrero on the Pacific (recorded in Mexico from a few localities in the states of Campeche, Chiapas, Guerrero, Oaxaca, Veracruz, and Yucatán).

FICIMIA RUSPATOR Smith and Taylor

Ficimia olivacea GÜNTHER (*nec* Gray), Biologia Centrali-Americana, Rept., 1893, p. 98 (part), pl. 35, fig. C (not fig. B).

Ficimia ruspator SMITH and TAYLOR, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 364–365, figs. 5, 10, 12 (head scales and head pattern).

Type.—E. H. Taylor–H. M. Smith Coll. No. 23646.

Type locality.—Three miles east of Tixtla, Guerrero.

Range.—Central Guerrero and Morelos (known only from the type locality and Cuernavaca, *Morelos*).

FICIMIA VARIEGATA (Günther)

Amblymetopon variegatum GÜNTHER, Catalogue of the snakes in the British Museum, 1858, pp. 7–8.

Ficimia variegata SMITH and TAYLOR, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 365–366.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Mexico.

Range.—Central portion of the Isthmus of Tehuantepec, and northwestern Chiapas (only two known records, from Guichicovi, *Oaxaca*, and "Tustla," perhaps of *Chiapas*).

Genus GEAGRAS Cope

Geagras COPE, Journ. Acad. Nat. Sci. Philadelphia, ser. 2, vol. 8, 1876, p. 141.

Genotype.—*Geagras redimitus* Cope.

Range.—The Isthmus of Tehuantepec and southern Sinaloa.

Species.—One.

GEAGRAS REDIMITUS Cope

Geagras redimitus COPE, Journ. Acad. Nat. Sci. Philadelphia, ser. 2, vol. 8, 1876, p. 141.—SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 430.

Sphenocalamus lineolatus FISCHER, Oster-Progr. Akad. Gymn. Hamb., 1883, p. 5 (type locality, Mazatlán [Sinaloa ?] type, Hamburg Mus. No. 1067).

Tantilla depressa DUNN, Amer. Mus. Nov., No. 314, 1928, p. 4 (type locality, Mixtequilla, Oaxaca; type, Amer. Mus. Nat. Hist. No. 19747).

Type.—U. S. N. M. No. 30115.

Type locality.—Tehuantepec.

Range.—Pacific slopes of the Isthmus of Tehuantepec; possibly southern Sinaloa (recorded definitely only from the state of Oaxaca).

Genus GEATRACTUS Dugès

Geatractus DUGÈS, La Naturaleza, ser. 2, vol. 3, 1898, p. 52; Proc. Zool. Soc. London, 1898, pp. 539–540.

Genotype.—*Geophis tecpanecus* Dugès.

Range.—Western Guerrero.

Species.—One.

GEATRACTUS TECPANECUS (Dugès)

Geophis tecpanecus DUGÈS, La Naturaleza, ser. 2, vol. 2, 1896, pp. 455–456, pl. 28, figs. 1–6.

Geatractus tecpanecus DUGÈS, *ibid.*, vol. 3, 1898, p. 52; Proc. Zool. Soc. London, 1898, pp. 539–540.

Type.—Museo Alfredo Dugès, University Guanajuato, Guanajuato, Mexico.

Type locality.—Tecpan de Galeana, Guerrero.

Range.—Known only from the type locality.

Genus GEOPHIS Wagler

Catostoma WAGLER, Natürliches System der Amphibien, 1830, p. 194 (type, *C. chalybeum* Wagler).

Geophis WAGLER, *ibid.*, p. 342 (alternative name for *Catostoma*, of same article, proposed to avoid confusion with *Catostomus* Lesueur, 1817; although *Catostoma* has page priority and is not suppressed by *Catostomus*, either name may be used, according to the choice of the first reviser, who in this case is the author himself).—Smith, Smithsonian Misc. Coll., vol. 99, No. 19, 1941, pp. 1–6 (key to Mexican species).

Rabdosoma Duméril, Mém. Acad. Sci. Inst. France, vol. 23, 1853, p. 440 (type, *R. semidoliatum* Duméril and Bibron).

Geophidium Peters, Monatsb. Akad. Wiss. Berlin, 1861, p. 923 (type, *G. dubium* Peters).

Parageophis Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 9, 1883, p. 534 (type, *Rabdosoma semidoliatum* Duméril, Bibron, and Duméril).

Dirosema Boulenger, Catalogue of snakes in the British Museum, vol. 2, 1894, p. 298 (type, *Geophis bicolor* Günther).

Genotype.—*Catostoma chalybeus* Wagler.

Range.—Central Mexico (San Luis Potosí) southward on the plateau and in foothills, through Central America to Brazil.

Species.—In all, 20 occur in Mexico,[36] and about 14 others in Central America and northern South America.[37]

KEY TO MEXICAN SPECIES OF GEOPHIS

1. An anterior temporal separating parietal from labials 2
No anterior temporal, parietal in contact with a labial 8
2. Six supralabials 3
Seven supralabials; about 40 irregular cross bars on body and tail. isthmicus
3. Sixth labial distinctly longer than others; ventrals 152 or less 4
Fifth labial longest; ventrals 152 or more 5
4. Light cross bands visible on body anteriorly; seven lower labials. omiltemana
No cross bands on body; dark above, with a light spot on snout; five lower labials maculiferus
5. Entire body and tail with numerous, dark cross bands, 37 to 43; caudals 37 in two females, 40 to 49 in two males semiannulatus
No cross bands on body, save sometimes a light nuchal collar; caudals 26 to 34 in females, 31 to 41 in males 6
6. Prefrontals much longer than broad longiceps
Prefrontals little longer than broad 7
7. Brown or slate above; never a light nuchal collar; belly light, with dark stippling; ventral surface of head and neck light, unmarked; caudals 30 to 34 in females latifrontalis

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[36] *Geophis rhodogaster* (Cope) (Proc. Acad. Nat. Sci. Philadelphia, vol. 20, 1868, pp. 130–131, 2 figs.) was originally described from near Guatemala City, and in spite of the reference of the species to the Yucatán fauna by all authors since 1887 there is no apparent reason for believing the original citation incorrect. The error in referring the species to Yucatán began with Cope's 1887 checklist (U. S. Nat. Mus. Bull. 32, p. 86) and has not been rectified since. So far as known at present, it does not occur in Mexico, although it may be found eventually in Chiapas.

[37] It is not certain that the three South American *Geophis* (*pöppigi, ruthveni, diplozeugus*) are actually congeneric with northern species. The absence of the anterior temporal distinguishes South American "*Geophis*" from *Atractus,* which has it; yet in Mexican species of *Geophis* both conditions occur. The hemipenial character (bifurcate hemipenis in *Atractus,* simple in *Geophis*) is perhaps a more reliable generic character, yet its condition is unknown in South American "*Geophis.*" The generic status of all the snakes of this section is in need of review.

Jet black above; usually a light nuchal collar at least indicated; belly black, with light, quadrangular spots; ventral surface of head and neck black, except at light ring; caudals 24 to 29 in females -------- mutitorques

8. Scales in 17 rows -------- 9
Scales in 15 rows -------- 17

9. No supraoculars; no postocular; ventrals 124 -------- anocularis
Supraoculars present -------- 10

10. Length of portion of rostral visible from above two-thirds its distance from frontal -------- 11
Length of portion of rostral visible from above half or less than half its distance from frontal -------- 12

11. First infralabial in contact with its mate medially -------- dubius
Mental in contact with chin shields -------- rostralis

12. No internasals; reddish with black dorsal cross bands -------- cancellatus
Internasals present; no dorsal cross bands -------- 13

13. Scales keeled posteriorly -------- 14
Scales smooth on entire body -------- 15

14. Scales of posterior chin shields in contact medially; scales on proximal half of tail keeled; length of portion of rostral visible from above equal to, or greater than its distance from prefrontal -------- nasalis
Scales of posterior chin shields separated medially; all dorsal caudal scales smooth; length of portion of rostral visible from above about half its distance from prefrontal -------- sieboldi

15. Diameter of eye equal to, or less than, its distance from labial border; three labials in contact with anterior chin shields; belly checkered. blanchardi
Diameter of eye greater than its distance from labial border; four labials in contact with anterior chin shields; belly light, sometimes black-spotted, tail with ventral black marks in some -------- 16

16. Two postoculars; belly spotted, subcaudals with their anterior portions black -------- bicolor
One postocular; belly and tail light, unspotted -------- chalybeus

17. Diameter of eye greater than its distance from labial border -------- chalybeus [38]
Diameter of eye less than its distance from labial border -------- 18

18. Tail and body distinctly banded; five supralabials -------- semidoliatus
Tail not banded, anterior part of body sometimes banded; six supralabials -------- 19

19. Length of portion of rostral visible from above two-thirds its distance from frontal -------- petersii
Length of portion of rostral visible from above half or less than half its distance from frontal -------- 20

20. Scales faintly keeled; no bands; ventrals 129 to 133 -------- sallaei
Scales smooth; bands present on anterior part of body, sometimes faint; ventrals 150 to 164 -------- dugesii

GEOPHIS ANOCULARIS Dunn

Geophis anocularis DUNN, Proc. Biol. Soc. Washington, vol. 33, 1920, p. 127.

Type.—U.S.N.M. No. 46556.

Type locality.—Totontepec, Oaxaca.

Range.—Known only from the type locality.

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[38] One of the three cotypes of *guttulatum* (=*chalybeus*) has 15 scale rows, while the other two have 17. The aberrant specimen has short rows intercalated between the others on various parts of the body.

GEOPHIS BICOLOR Günther

Geophis bicolor Günther, Ann. Mag. Nat. Hist., ser. 4, vol. 1, 1868, p. 416.
Dirosema bicolor Boulenger, Catalogue of the snakes in the British Museum, vol. 2, 1894, p. 298, pl. 14, fig. 2.

Type.—Brit. Mus. Nat. Hist., four cotypes.

Type locality.—"Mexico City."

Range.—Mexico (city) to western Jalisco (known from only two moderately definite localities: "Mexico City" and La Cumbre de los Arrastrados, *Jalisco*).

GEOPHIS BLANCHARDI Taylor and Smith

Geophis blanchardi Taylor and Smith, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 245–247, fig. 2.—Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 430–431.

Type.—E. H. Taylor-H. M. Smith Coll. No. 5194.

Type locality.—Two miles west of Acultzingo, Veracruz.

Range.—The Sierra Madre Oriental in central Veracruz (known only from the vicinity of the type locality, in Puebla and Veracruz).

GEOPHIS CANCELLATUS Smith

Geophis cancellatus Smith, Smithsonian Misc. Coll., vol. 99, No. 19, 1941, p. 1.

Type.—U.S.N.M. No. 46440.

Type locality.—Chicharras, Chiapas.

Range.—Known only from the type locality.

GEOPHIS CHALYBEUS (Wagler)

Catostoma chalybeum Wagler, Natürliches System der Amphibien, 1830, p. 194.
Geophis chalybeus Peters, Monatsb. Akad. Wiss. Berlin, 1859, pp. 275–276.—Smith, Smithsonian Misc. Coll., vol. 99, No. 19, 1941, p. 3.
Rhabdosoma guttulatum Cope, Proc. Amer. Philos. Soc., vol. 22, 1885, p. 385 (type locality, Veracruz; cotypes, U.S.N.M. Nos. 25024–5, 30399).

Type.—Berlin Mus.

Type locality.—Mexico.

Range.—Known only from "Veracruz."

GEOPHIS DUBIUS (Peters)

Geophidium dubium Peters, Monatsb. Akad. Wiss. Berlin, 1861, p. 923.
Geophis dubius Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 9, 1883, pp. 532–533, pl. 31, fig. 9.—Boulenger, Catalogue of the snakes in the British Museum, vol. 2, 1894, pp. 322, 323.
Geophis fuscus Fischer, Abh. Naturw. Ver. Hamburg, vol. 9, 1886, pp. 11–12, pl. 2, fig. 5 (type locality, Jalapa, Veracruz; type in Brit. Mus. Nat. Hist.).

Type.—Berlin Mus.

Type locality.—"Tehuantepec."

Range.—Recorded from western Guatemala, "Tehuantepec" (*Oaxaca?*), and Jalapa, *Veracruz;* range uncertain.

GEOPHIS DUGESII Bocourt

Geophis dugesii Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 9, 1883, pp. 573–574, pl. 37, fig. 1.—Dugès, La Naturaleza, vol. 6, 1884, pp. 359–361, pl. 9, fig. 2 (in color).—Smith, Publ. Field Mus. Nat. Hist., zool. ser., vol. 24, 1939, pp. 28–29.

Type.—Mus. Hist. Nat. Paris.

Type locality.—Tangancícuaro, Michoacán.

Range.—Northern Michoacán (known from only two localities).

GEOPHIS ISTHMICUS (Boulenger)

Rhabdosoma zebrinum Bocourt (*nec* Jan), Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 9, 1883, p. 539, pl. 34, fig. 1.

Atractus isthmicus Boulenger, Catalogue of the snakes in the British Museum, vol. 2, 1894, pp. 307–308 (substitute name for *R. zebrinum* Bocourt).

[*Geophis*] *isthmicus* Dunn, Amer. Mus. Nov., No. 314, 1928, p. 1.

Type.—Mus. Hist. Nat. Paris.

Type locality.—Tehuantepec.

Range.—Known only from the type locality.

GEOPHIS LATIFRONTALIS Garman

Geophis latifrontalis Garman, Mem. Mus. Comp. Zool., vol. 8, 1883, p. 103.—Smith, Proc. New England Zool. Club, vol. 18, 1941, pp. 51–52.

Type.—Mus. Comp. Zool. No. 4538.

Type locality.—Fifty miles south of San Luis Potosí.

Range.—Southern San Luis Potosí (known only from the vicinity of Alvarez).

GEOPHIS LONGICEPS (Cope)

Rhabdosoma longiceps Cope, *in* Ferrari-Perez, Proc. U. S. Nat. Mus., vol. 9, 1886, pp. 189–190.

Geophis longiceps Dunn, Amer. Mus. Nov., No. 314, 1928, pp. 1–2.

Type.—Lost.

Type locality.—San José Acateno, Veracruz.

Range.—Known only from the type locality.

GEOPHIS MACULIFERUS Taylor

Geophis maculiferus Taylor, Univ. Kansas Sci. Bull., vol. 27, 1942, pp. 119–121, fig. 1 (head).

Type.—E. H. Taylor-H. M. Smith Coll. No. 23552.

Type locality.—Near Cicio, Michoacán.

Range.—Known only from the type locality.

GEOPHIS MUTITORQUES (Cope)

Rhabdosoma mutitorques Cope, Proc. Amer. Philos. Soc., vol. 22, 1885, pp. 384–385.

Geophis mutitorques Günther, Biologia Centrali-Americana, Rept., 1893, p. 93. —Smith, Proc. New England Zool. Club, vol. 18, 1941, pp. 53–55; Proc. U .S. Nat. Mus., vol. 93, 1943, p. 431.

Type.—Acad. Nat. Sci. Phila. Nos. 11324, 14758–65, nine cotypes.

Type locality.—Zacualtipán, Hidalgo.

Range.—Southern Hidalgo, central-western Veracruz and northern Puebla.

GEOPHIS NASALIS (Cope)

Catostoma nasale COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 20, 1868, p. 131, fig.

Geophis nasalis SMITH, Smithsonian Misc. Coll., vol. 99, No. 19, 1941, pp. 4–5.

Type.—Acad. Nat. Sci. Phila. Nos. 3319–21, three cotypes.

Type locality.—"Near the city of Guatemala," Guatemala.

Range.—Mountains from southern Chiapas to central Guatemala (only Mexican record is from Chicharras, *Chiapas*). Perhaps northward to central Guerrero (Xochitempa and Amula, *Guerrero*).

GEOPHIS OMILTEMANA Günther

Geophis omiltemana GÜNTHER, Biologia Centrali-Americana, Rept., 1893, p. 92, pl. 33, fig. A.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Omilteme, Guerrero.

Range.—Sierra Madre del Sur, central Guerrero (known only from the type locality).

GEOPHIS PETERSII Boulenger

Geophis petersii BOULENGER, Catalogue of the snakes in the British Museum, vol. 2, 1894, p. 321, pl. 16, fig. 2.—TAYLOR, Univ. Kansas Sci. Bull., vol. 27, 1941, p. 121, fig. 2 (head).

Type.—Brit. Mus. Nat. Hist., two cotypes.

Type locality.—"Mexico City," probably in error.

Range.—Northern Michoacán (recorded only from Pátzcuaro).

GEOPHIS ROSTRALIS (Jan)[39]

Elapoides rostralis JAN, Iconographie générale des ophidiens, livr. 12, 1865, pl. 2, fig. 2.

Geophis rostralis BOCOURT, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 9, 1883, pp. 533-534, pl. 31, fig. 10.—BOULENGER, Catalogue of the snakes in the British Museum, vol. 2, 1894, pp. 323–324.

Type.—Location uncertain.

Type locality.—Mexico.

Range.—Uncertain. Possibly western Oaxaca.

GEOPHIS SALLAEI Boulenger

Geophis sallaei BOULENGER, Catalogue of the snakes in the British Museum, vol. 2, 1894, p. 318, pl. 16, fig. 1.—SMITH, Copeia, 1942, No. 4, p. 259.

Type.—Brit. Mus. Nat. Hist.

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[39] There is some confusion in the literature concerning the identity and identifying characters of the closely related species *rostralis* and *dubius*, but in the absence of a sufficient number of specimens to settle at present the suggested problems, we cannot formulate a reliable opinion of the number of species that actually exists. It is suggested that at least three are involved, but for the present we follow Boulenger's arrangement.

Type locality.—Mexico.

Range.—Southern-central Oaxaca (known only from near Pluma Hidalgo).

GEOPHIS SEMIANNULATUS Smith

Geophis semiannulatus SMITH, Proc. New England Zool. Club, vol. 18, 1941, pp. 49–51; Copeia, 1942, No. 4, pp. 259–260.

Type.—Mus. Comp. Zool. No. 11422.

Type locality.—Colima (possibly in error).

Range.—Known only from the type locality and Guerrero, *Hidalgo.*

GEOPHIS SEMIDOLIATUS (Duméril, Bibron, and Duméril)

Rhabdosoma semidoliatum DUMÉRIL, BIBRON, and DUMÉRIL, Erpétologie générale, vol. 7, pt. 1, 1854, pp. 93–95.

Geophis semidoliatus PETERS, Monatsb. Akad. Wiss. Berlin, 1859, p. 276.—TAYLOR and SMITH, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 244–245.

Type.—Mus. Hist. Nat. Paris, five cotypes.

Type locality.—Mexico.

Range.—Foothills of central Veracruz, northeastern Hidalgo, and northeastern Oaxaca.

GEOPHIS SIEBOLDI (Jan)

Elapoides sieboldi JAN, Arch. Zool. Anat. Fis., vol. 2, 1862, pp. 21–22; Iconographie générale des ophidiens, livr. 12, 1865, pl. 1, fig. 5.

Geophis sieboldii SMITH, Smithsonian Misc. Coll., vol. 99, No. 19, 1941, p. 4.

Type.—Milan, Monaco, Vienna Mus., cotypes.

Type locality.—"Mexico" and "Guadelupa."

Range.—Unknown.

Genus GYALOPION Cope

Gyalopion COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 243.—SMITH and TAYLOR, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 358–362, figs. 1–2, 6–7, 11, 15–17.

Genotype.—*Gyalopion canum* Cope.

Range.—Western Texas west and south to central Sinaloa.

Species.—Three, all occurring in Mexico.

KEY TO SPECIES OF GYALOPION

1. Dark markings on head and middorsum brown, black-edged; head markings variable, not a single large blotch fused with first nuchal spot__ canum
   Dark markings on head and middorsum uniform black; a large black spot on head, fused with first nuchal spot______________________________ 2
2. Markings restricted to middorsum, not extending onto sides of body; 26 spots on body; no loreal__________________________________ quadrangularis
   Markings extending onto sides of body to ends of ventrals; 32 spots on body; a loreal____ desertorum

GYALOPION CANUM Cope

Gyalopion canum COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 243.—SMITH and TAYLOR, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 361–362, figs. 1, 6, 16 (head scales), map fig. 17.—SMITH, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1944, pp. 139–140.

Type.—U.S.N.M. Nos. 16427–8, two cotypes.

Type locality.—Fort Buchanan, Ariz.

Range.—Southeastern Arizona east to Tom Green County, Tex., and southward at least to the Chisos Mountain area in the Great Bend of the Rio Grande in western Texas, and probably into northern Chihuahua and Coahuila (known in Mexico only from near Galeana, *Nuevo León*).

GYALOPION DESERTORUM (Taylor)

Ficimia desertorum TAYLOR, Proc. Biol. Soc. Washington, vol. 49, 1936, pp. 51–52; Univ. Kansas Sci. Bull., vol. 24, 1936 (1938), p. 494, pl. 43, fig. 1 (photograph).

Gyalopion desertorum SMITH and TAYLOR, Journ. Washington Acad. Sci., vol. 31, 1941, p. 359, figs. 2, 7, 15 (head scales), map fig. 17.

Type.—E. H. Taylor-H. M. Smith Coll. No. 4576.

Type locality.—Twelve km. northwest of Guaymas, Sonora.

Range.—Known only from the type locality.

GYALOPION QUADRANGULARIS (Günther)

Ficimia quadrangularis GÜNTHER, Biologia Centrali-Americana, Rept., 1893, p. 99, pl. 35, fig. A.

Gyalopion quadrangularis SMITH and TAYLOR, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 359–361, map fig. 17.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Presidio, near Mazatlán, Sinaloa.

Range.—Known only from the type locality.

Genus HETERODON Latreille

Heterodon LATREILLE, *in* Sonnini and Latreille, Histoire naturelle des reptiles, vol. 4, 1802, p. 32.

Genotype.—*Heterodon platyrhinos* Latreille.

Range.—New Hampshire west to Montana and southward through all the Gulf States and northern Mexico.

Species.—Four, one occurring in Mexico; the Mexican species is represented by two subspecies.

KEY TO MEXICAN FORMS OF HETERODON

1. Accessory scales (excluding azygous) 2 to 6; loreal usually single or absent ______ nasicus kennerlyi
   Accessory scales 8 to 19; loreals usually 2 to 5 ______ nasicus nasicus

HETERODON NASICUS NASICUS Baird and Girard

Heterodon nasicus BAIRD and GIRARD, *in* Stansbury's Exploration and survey of the Valley of the Great Salt Lake of Utah, 1852, pp. 352–353.—VAN DENBURGH, Occ. Pap. California Acad. Sci., vol. 10, 1922, pp. 655–658, pl. 62.—DITMARS, Reptiles of North America, 1936, p. 295, pl. 84, figs. 6, 8, pl. 87.

Heterodon nasicus nasicus COPE, Proc. U. S. Nat. Mus., vol. 14, 1891, p. 645; Ann. Rep. U. S. Nat. Mus., 1898 (1900), pp. 774–777, fig. 168.—DUNKLE and SMITH, Occ. Pap. Mus. Zool. Univ. Michigan, No. 363, 1937, pp. 9–10.

Type.—U. S. Nat. Mus., apparently lost.

Type locality.—Texas.

Range.—Southwestern Iowa, Kansas, and South Dakota west to Montana and south to central Texas, central New Mexico, central Arizona, and northern Sonora, excluding the extreme southeastern corner of Arizona; eastward in northern Illinois and Indiana (the only known Mexican specimen is from "Sonora," presumably central northern Sonora, if correct).

HETERODON NASICUS KENNERLYI Kennicott

Heterodon kennerlyi KENNICOTT, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, pp. 336–337.

[*Heterodon nasicus*] *Kennerlyi* BOCOURT, Mission scientifique au Mexique et dans l'Amérlique Centrale, Rept., livr. 10, 1886, p. 606, pl. 38, fig. 2.—COPE, Ann. Rep. U. S. Nat. Mus., 1898 (1900), pp. 773–774.—DUNKLE and SMITH, Occ. Pap. Mus. Zool. Univ. Michigan, No. 363, 1937, pp. 9–10.—SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 432–433.

Type.—U.S.N.M. No. 1282, two cotypes.

Type locality.—Restricted to "Lower Rio Grande," Tex. (included also "Sonora").

Range.—Southern Texas, southern New Mexico, and southeastern Arizona, south to central Zacatecas and central San Luis Potosí (known from the Mexican states of Chihuahua, Coahuila, Durango, San Luis Potosí, Tamaulipas, and Zacatecas; very doubtfully recorded from "Sonora").

Genus HYPSIGLENA Cope

Hypsiglena COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 246.—TAYLOR, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 367–368.

Pseudodipsas PETERS, Monatsb. Akad. Wiss. Berlin, 1860, p. 521 (type, *P. fallax*).

Comastes JAN, Elenco sistematico degli Ofidi, 1863, p. 102 (type, *C. quincunciatus*).

Genotype.—*Hypsiglena ochrorhynchus* Cope.

Range.—Southern Idaho and northern California south and east through Baja California and central Texas to central Mexico, thence southward along the Pacific coast of Central America perhaps to Ecuador and Venezuela.

Species.—Six species and subspecies, all occurring in Mexico.

KEY TO FORMS OF HYPSIGLENA

1. A well-defined, light nuchal collar -- 4
   No light nuchal collar; nuchal blotch fused with postocular stripe or not -- 2
2. Subcaudals 68, and parietals in contact with postoculars, in the single known specimen -- slevini

Subcaudals not over 60; parietals not normally in contact with postoculars -- 3

3. Nuchal spot covering 9 or 10 scale lengths --------------- ochrorhyncha janii

Nuchal spot (or spots) covering 6 scale lengths or less. ochrorhyncha ochrorhyncha

4. Scales in 19 rows; one preocular ------------------------------------- affinis

Scales in 21 rows; two preoculars -- 5

5. Ventrals 162, caudals 57, body spots 43 in type (male) --------------- dunklei

Ventrals 164 to 174, caudals 35–56, body spots 52–54 --------------- torquata

HYPSIGLENA AFFINIS Boulenger

Hypsiglena affinis BOULENGER, Catalogue of the snakes in the British Museum, vol. 2, 1894, pp. 210–211, pl. 8, fig. 1.—TAYLOR, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 370–371, pl. 37, fig. 2.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Zacatecas and Jalisco.

Range.—Western Zacatecas and Jalisco (definite records are only from Magdalena, *Jalisco*, and Mezquital del Oro, *Zacatecas*).

HYPSIGLENA DUNKLEI Taylor

Hypsiglena torquata dunklei TAYLOR, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 374–375, pl. 37, fig. 1.

Type.—Mus. Comp. Zool. No. 42594.

Type locality.—Hacienda La Clementina, near Forlón, Tamaulipas.

Range.—Known only from the type locality.

HYPSIGLENA OCHRORHYNCHA OCHRORHYNCHA Cope [40]

Hypsiglena ochrorhynchus COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, pp. 246–247.

Hypsiglena ochrorhynchus ochrorhynchus STEJNEGER and BARBOUR, A check list of North American amphibians and reptiles, ed. 1, 1917, p. 93.—VAN DENBURGH, Occ. Pap. California Acad. Sci., vol. 10, 1922, pp. 780–783, pl. 85.

Hypsiglena chlorophaea COPE, Proc. Acad. Nat. Sci. Philadelphia, 1860, p. 247 (type locality, Fort Buchanan, Ariz.; three cotypes, U.S.N.M. No. 5283, Acad. Nat. Sci. Phila. Nos. 3537–8).

Hypsiglena venusta MOCQUARD, Nouv. Arch. Mus. Hist. Nat. Paris, ser. 4, vol. 1, 1899, p. 327 (type locality, Santa Rosalía and San Ignacio, Baja California; six cotypes, Mus. Hist. Nat. Paris).—KLAUBER, Copeia, No. 4, 1938, pp. 192–193.

Type.—U.S.N.M. No. 4676, Acad. Nat. Sci. Phila. Nos. 3748–9, Mus. Comp. Zool. No. 9503, four cotypes.

Type locality.—Cape San Lucas, Baja California.

Range.—Southern Idaho and central Washington south through Baja California, western Colorado, and central Texas, reaching southern Sonora and southern Chihuahua and Coahuila (recorded from several localities in the Mexican states of Baja California, Chihuahua, Coahuila, Durango, Nuevo León, San Luis Potosí, and Sonora).

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[40] We believe that a careful study of this widespread form will result in the definition of several geographic races not now recognizable.

HYPSIGLENA OCHRORHYNCHA JANII (Dugès)

Liophis janii Dugès, Mem. Sect. Sci. Acad. Sci. Lett. Montpellier, vol. 6, 1865, pp. 32–33.

Hypsiglena ochrorhychus janii Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 433.

Type.—Location unknown.

Type locality.—Guanajuato.

Range.—The central portion of the Mexican Plateau, from San Luis Potosí through Guanajuato to Michoacán (recorded from Tupátaro, *Michoacán*, *Guanajuato*, and Río Verde, *San Luis Potosí*).

HYPSIGLENA SLEVINI Tanner

Hypsiglena slevini Tanner (W. W.), Great Basin Nat., vol. 4, 1943, pp. 53–54.

Type.—Calif. Acad. Sci. No. 53631.

Type locality.—Puerto Escondido, Baja California.

Range.—Known only from the type locality (near Loreto).

HYPSIGLENA TORQUATA (Günther)

Leptodeira torquata Günther, Ann. Mag. Nat. Hist., ser. 3, vol. 5, 1860, pp. 170–171, pl. 10, fig. A.

Leptodeira torquata torquata Dunn, Proc. Nat. Acad. Sci., vol. 22, 1936, pp. 694–695.

Hypsiglena torquata torquata Taylor, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 371–373 (part), pl. 37, fig. 3.

Pseudodipsas fallax Peters, Monatsb. Akad. Wiss. Berlin, 1860, p. 521 (type locality indefinite, America or Guayaquil; type in Hamburg Mus.).

Comastes quincunciatus Jan, Iconographie générale des ophidiens, livr. 38, 1871, pl. 1, fig. 1 (type locality, Caracas, Venezuela; type in Heidelberg Mus.).

Type.—Brit. Mus. Nat. Hist. No. 61–12–30, 97.

Type locality.—Laguna Island, Nicaragua.

Range.—Pacific coast of Mexico and Central America southward from Nayarit, perhaps to Ecuador and Venezuela in South America (recorded in Mexico only from the states of Colima, Durango, Michoacán, Morelos, Nayarit, and Sinaloa).

Genus IMANTODES Duméril and Bibron

Imantodes Duméril and Bibron, Mém. Acad. Inst. France, vol. 23, 1853, p. 507.—Smith, Proc. U. S. Nat. Mus., vol. 92, 1942, pp. 384–391 (brief review of Mexican species).

Himantodes Cope, Proc. Acad. Nat. Sci. Philadelphia, 1860, p. 264 (emendation).

Genotype.—*Coluber cenchoa* Linnaeus.

Range.—Both coasts of Mexico from central Veracruz and Nayarit southward into South America.

Species.—Seven species, two with three subspecies each, are known. Eight forms occur in Mexico.

KEY TO MEXICAN FORMS OF IMANTODES

1. Vertebral scales greatly enlarged, three to four times as wide as adjacent dorsals; bands symmetrical, usually not broken on sides of body posteriorly -------- cenchoa leucomelas
   Vertebral scales not at all enlarged or not over twice width of adjacent scales; bands variable -------- 2
2. Ventrals 240 or more -------- 3
   Ventrals 236 or fewer -------- 4
3. Posterior dark bands on body broken laterally, poorly defined; spaces between anterior cross bars less than one scale length -------- gracillimus
   Bands distinct and symmetrical over all of body, usually none broken on sides of body, all involving ends of ventrals or subcaudals; spaces between cross bands half length of bands, or greater -------- tenuissimus
4. Vertebrals about twice as wide as adjacent scales -------- gemmistratus
   Vertebrals not or but slightly enlarged, not twice as wide as adjacent dorsals -------- 5
5. Bands with nearly straight anterior and posterior edges, very little, if any, narrower laterally than dorsally; bands not broken on sides of body, but becoming much less distinct toward tail, sometimes indistinguishable; ventrals 223 to 233 -------- latistratus
   Bands narrower on sides of body than on middorsum, at least the posterior ones broken laterally, and all very distinct and not becoming notably fainter toward tail -------- 6
6. Body bands 34 to 39, only those on extreme posterior part of body broken laterally; ventrals 198 to 201 -------- splendidus splendidus
   Body bands 43 or more, broken laterally on at least posterior half of body, sometimes on posterior two-thirds; ventrals 205 or more -------- 7
7. Body bands 47 to 67, average 57, broken laterally on all except anterior third of body; ventrals 222 to 235, average 229 -------- splendidus oliveri
   Body bands 43 to 52, average 46, broken laterally only on posterior half of body; ventrals 205 to 225, average 219 -------- splendidus luciodorsus

IMANTODES CENCHOA LEUCOMELAS Cope

Himantodes leucomelas Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861, p. 296.

Imantodes cenchoa leucomelas Smith, Proc. U. S. Nat. Mus., vol. 92, 1942, pp. 384–385, pl. 37, fig. 1; vol. 93, 1943, p. 434.

Type.—U.S.N.M. No. 25035–6, two cotypes.

Type locality.—Mirador, Veracruz.

Range.—Central Veracruz and southern Chiapas south into Guatemala on both coasts (recorded in Mexico from numerous localities in the states of Campeche, Chiapas, Oaxaca, Tabasco, and Veracruz).

IMANTODES GEMMISTRATUS Cope

Himantodes cenchoa Cope (*nec* Linnaeus), Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 264.

Himantodes gemmistratus Cope, *ibid.*, vol. 13, 1861, pp. 296–297.

Type.—Lost.

Type locality.—Near Izalco, El Salvador.

Range.—Pacific coast of extreme southern Chiapas, south to Panama (only precise Mexican record is from the vicinity of Escuintla, *Chiapas*).

IMANTODES GRACILLIMUS (Günther)

Dipsas gracillima Günther, Biologia Centrali-Americana, Rept., 1895, p. 177, pl. 56, fig. B.

Himantodes gracillimus Boulenger, Catalogue of the snakes in the British Museum, vol. 3, 1896, p. 371.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Southern Mexico.

Range.—Known only from two definite localities: Tres Marías Islands (Boulenger), and Acapulco, *Guerrero* (M.C.Z. No. 823).

IMANTODES LATISTRATUS (Cope)

Dipsas gemmistrata latistrata Cope, U. S. Nat. Mus. Bull. 32, 1887, p. 68.

Imantodes latistratus Smith, Proc. U. S. Nat. Mus., vol. 92, 1942, p. 387, pl. 37, fig. 2.

Type.—U.S.N.M. No. 24963, Acad. Nat. Sci. Phila. No. 11677, two cotypes (latter from "Toluca").

Type locality.—Restricted to Guadalajara, Jalisco (U.S.N.M.) (included also "Toluca").

Range.—Probably southern Sinaloa south at least to central Guerrero (actual records on the mainland are from the states of Guerrero, Jalisco, México, Michoacán, Morelos, and Nayarit).

IMANTODES SPLENDIDUS SPLENDIDUS (Günther)

Dipsas splendida Günther, Biologia Centrali-Americana, Rept., 1895, p. 176, pl. 56, fig. A.

Imantodes splendidus Schmidt and Andrews, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1936, pp. 176–177.

Imantodes splendidus splendidus Smith, Proc. U. S. Nat. Mus., vol. 92, 1942, p. 388.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Yucatán.

Range.—The northern portion of the Yucatán Peninsula (recorded in Mexico only from the state of Yucatán).

IMANTODES SPLENDIDUS LUCIODORSUS Oliver

Imantodes luciodorsus Oliver, Copeia, 1942, pp. 1–2.

Imantodes splendidus luciodorsus Smith, Proc. U. S. Nat. Mus., vol. 92, 1942, p. 388; vol. 93, 1943, p. 435.

Type.—Mus. Zool. Univ. Mich. No. 81920.

Type locality.—Balchacaj, Campeche.

Range.—Coastal or lowlands regions on Atlantic slopes from central Veracruz through Campeche and northern Chiapas into Guatemala, avoiding the northern half of the Yucatán Peninsula (known in Mexico from the states of Campeche, Chiapas, and Veracruz; probably occurs also in northern Oaxaca and in Tabasco).

IMANTODES SPLENDIDUS OLIVERI Smith

Imantodes splendidus oliveri SMITH, Proc. U. S. Nat. Mus., vol. 92, 1942, pp. 388–390; vol. 93, 1943, pp. 436–437.

Type.—Mus. Comp. Zool. No. 27800.

Type locality.—Tapanatepec, Oaxaca.

Range.—Pacific lowlands from western Chiapas northwestward probably to Nayarit (definite records are available only from Chiapas and Oaxaca; probably referable is a record from Colima and another from Nayarit).

IMANTODES TENUISSIMUS Cope

Himantodes tenuissimus COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866 (1867), pp. 317–318.

Imantodes tenuissimus HARTWEG and OLIVER, Misc. Publ. Mus. Zool. Univ. Michigan, No. 47, 1940, p. 24.

Imantodes gemmistratus SCHMIDT and ANDREWS (*nec* Cope), Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1936, pp. 177–178.

Type.—U.S.N.M. No. 6563.

Type locality.—Yucatán.

Range.—Yucatán Peninsula (known only from a few localities in Campeche, Quintana Roo, and Yucatán).

Genus LAMPROPELTIS Fitzinger

Lampropeltis FITZINGER, Systema reptilium, 1843, p. 25.—BLANCHARD, U. S. Nat. Mus. Bull. 114, 1921, pp. 1–260, figs. 1–78 (generic revision).—SMITH, Proc. Rochester Acad. Sci., vol. 8, 1942, pp. 196–207, pl. 1 (brief summary of Mexican members of the *triangulum* group).

Bellophis LOCKINGTON, Proc. California Acad. Sci., vol. 7, 1876, p. 52 (type, *B. zonatus* Lockington=*Coluber zonatus* Blainville).

Oreophis DUGÈS, Proc. Zool. Soc. London, 1897, pp. 284–285 (type, *O. boulengeri* Dugès=*Ophibolus triangulus mexicanus* Garman).

Genotype.—*Herpetodryas getulus* Schlegel.

Range.—Extreme southern Canada (western part only) through most of the United States, Mexico, and Central America into South America.

Species.—In all, 43 species and subspecies are known, 24 of which occur in Mexico.

KEY TO MEXICAN FORMS OF LAMPROPELTIS

1. Pattern of very narrow, widely separated cross bands of black, some of the bands usually mixed or split with red ---------- alterna
Pattern not as described above ---------- 2
2. Pattern without red, of two colors (black or brown, and white) ---------- 3
Pattern with red, of three colors ---------- 9

3. A middorsal longitudinal stripe, complete or interrupted; no transverse markings ---------- 4
No longitudinal stripes; cross bands present ---------- 6

4. Dorsal stripe white or yellow, sharply defined on a dark brown or black ground color ---------- californiae
Dorsal stripe poorly defined, brownish ---------- 5

5. Dorsal stripe lighter than sides, belly uniformly stippled, brown ---------- nitida
Body uniform brownish above, lateral scales with light centers; belly mostly black, marbled with whitish ---------- catalinensis

6. Most of scales in light cross bands with dark bases ---------- 7
Most of scales in light cross bands entirely light ---------- getulus boylii

7. Light cross bands separating narrow dark blotches that do not reach ventral scales; lateral scales white-centered ---------- getulus splendida
Light cross bands separating broader dark rings that are unmarked with white, even laterally (except on ventrals) ---------- 8

8. White bars on prefrontals occupying less than half area of these scutes; frontal plate uniform black, or with white restricted to a narrow, transverse bar at its anterior end; no white on parietals; infralabials usually 9 ---------- getulus yumensis
White bars on prefrontals occupying more than half area on these plates; frontal plate with prominent white markings, or at least with a central spot of white; each parietal with one or more white spots; infralabials usually 10 ---------- getulus conjuncta

9. A zigzag lateral white line on third and fourth scale rows; red bands (blotches) numerous (70 in types), only a few broken by contact of adjacent black borders ---------- knoblochi
No such lateral line; red bands (blotches) rarely so numerous, and when about 70, most are broken medially by contact of adjacent black borders ---------- 10

10. Pattern of dark-edged dorsal blotches of red, not reaching outer scale row ---------- 11
Pattern in rings, or of blotches many of which reach outer scale row ---------- 12

11. No markings on sides of body; blotches on body 27, separated from each other by twice (or more) their own length, areas between covering four to seven scale lengths ---------- leonis
Irregular markings on sides of body; blotches on body 31 to 47, space between covering one and one-half scale lengths (less than length of a single blotch) ---------- mexicana

12. White rings or cross bands on body and tail more than 40 ---------- pyromelana
White rings less than 40 ---------- 13

13. Scales in red areas black-tipped ---------- 14
Scales in red areas not black-tipped ---------- 17

14. Red rings narrowed middorsally by expansion of black rings, which sometimes meet across red areas; latter seldom longer than a single black ring middorsally ---------- 15
Red rings not distinctly narrowed middorsally, longer than black rings ---------- 16

15. Snout entirely black or with reddish light areas; total white rings usually 33 or more ---------- 23
Snout with irregular white patches, or a white transverse band; total white rings usually less than 33 ---------- triangulum arcifera

16. Ventrals 208 to 239, usually 220 or more; white annuli on body and tail 18 to 35, usually 21 or more ---------- triangulum polyzona
Ventrals 203 to 219; annuli on body and tail 17 to 22, usually 20 or less.
triangulum blanchardi

17. Red rings narrowed middorsally by expansion of black rings, which sometimes meet across red areas; latter seldom longer than a single black ring middorsally ---------- triangulum arcifera
    Red rings not distinctly narrowed middorsally, longer than black rings -- 18
18. Red bands interrupted on belly by broad black areas connecting the black rings, white rings complete about body ---------- triangulum annulata
    Red bands not interrupted completely; white rings complete or interrupted ---------- 19
19. Head uniform black to tips of parietals; white rings on body and tail 30. ruthveni
    Head with light markings ---------- 20
20. A red band or blotch on top of head, remainder of head mottled white and black; white rings on body and tail 26 to 31 ---------- thayeri
    Head black and white, not mottled (except snout) ---------- 21
21. White rings covering two and one-half scale lengths middorsally; ventrals 228–233 ---------- triangulum schmidti
    White rings narrower, about one and one-half scale lengths ---------- 22
22. Ventrals 200 to 224; snout light ---------- triangulum nelsoni
    Ventrals 227 to 235; snout dark, with a transverse white bar. triangulum oligozona
23. More than half of triad rings (pair of black rings enclosing a red ring) on body enclose red rings, which cross the dorsum ---------- 24
    More than half of triad rings on body entirely black or with lateral red areas, which are not confluent dorsally ---------- zonata herrerae
24. Top of snout back to frontal black; *or*, if prominently red or pink, total body triads less than 40 ---------- zonata zonata
    Top of snout back to the frontal predominantly red or pink, and with body triads exceeding 39 ---------- zonata agalma

LAMPROPELTIS ALTERNA (Brown)

Ophibolus alterna Brown, Proc. Acad. Nat. Sci. Philadelphia, vol. 53, 1901 (1902), pp. 612–613, pl. 34.

Lampropeltis alterna Stejneger and Barbour, A check list of North American amphibians and reptiles, ed. 1, 1917, p. 87.—Blanchard, U. S. Nat. Mus. Bull. 114, 1921, pp. 247–249, fig. 78.—Murray, Contr. Baylor Univ. Mus., No. 24, 1939, pp. 9–12, 2 figs.—Smith, Copeia, 1941, No. 2, p. 112; Proc. Rochester Acad. Sci., vol. 8, 1942, pp. 204–206.—Schmidt and Owens, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1944, pp. 111–112.

Type.—Acad. Nat. Sci. Phila. No. 14977.

Type locality.—Davis Mountains, Jeff Davis County, Tex.

Range.—Western Texas in the Great Bend region of the Rio Grande, south to southern Coahuila (known in Mexico only from two localities in Coahuila).

LAMPROPELTIS CALIFORNIAE (Blainville)[41]

Coluber (*Ophis*) *californiae* Blainville, Nouv. Ann. Mus. Hist. Nat. Paris, vol. 4, 1835, p. 292, pl. 27, fig. 1.

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[41] Arguments for a quite different arrangement and concept of *californiae, boylii, nitida,* and *conjuncta* are fully presented by Klauber in Herpetologica, vol. 1, 1936, pp. 18–27, figs. 1, 2, and in Bull. Zool. Soc. San Diego, No. 15, 1939, pp. 1–23, figs. 1–7. The contrary view, here accepted, is elaborated elsewhere by Smith (Amer. Midl. Nat., vol. 29, 1943, pp. 245–251).

Lampropeltis californiae VAN DENBURGH, Occ. Pap. California Acad. Sci., vol. 5, 1897, p. 172; vol. 10, 1922, pp. 265-267, pl. 83.

Type.—Mus. Hist. Nat. Paris.

Type locality.—California.

Range.—Northern Baja California northward through southern California to southern San Joaquin Valley.

LAMPROPELTIS CATALINENSIS Van Denburgh and Slevin

Lampropeltis catalinensis VAN DENBURGH and SLEVIN, Proc. California Acad. Sci., ser. 4, vol. 11, 1921, pp. 397-398.

Type.—Calif. Acad. Sci. No. 50514.

Type locality.—Santa Catalina Island, Gulf of California.

Range.—The type locality.

LAMPROPELTIS GETULUS BOYLII (Baird and Girard)

Ophibolus boylii BAIRD and GIRARD, Catalogue of North American reptiles, 1853, pp. 82-83.

L.[ampropeltis] getulus boylii BLANCHARD, Occ. Pap. Mus. Zool. Univ. Michigan, No. 87, 1920, p. 3.—VAN DENBURGH, Occ. Pap. California Acad. Sci., vol. 10, 1922, pp. 752-756, pls. 81-82.

Type.—U.S.N.M. No. 1698.

Type locality.—El Dorado County, Calif.

Range.—California, southern Oregon, Nevada, Utah, western Arizona, and northern Baja California.

LAMPROPELTIS GETULUS CONJUNCTA Cope

Lampropeltis boylii conjuncta COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861, pp. 301-302, 305.

L. [ampropeltis] getulus conjuncta BLANCHARD, Occ. Pap. Mus. Zool. Univ. Michigan, No. 87, 1920, p. 4; U. S. Nat. Mus. Bull. 114, 1921, pp. 89-93, fig. 21.—LINSDALE, Univ. California Publ. Zool., vol. 38, 1932, p. 378.—KLAUBER, Herpetologica, vol. 1, No. 1, 1936, pp. 24-26.

Type.—U.S.N.M. No. 5288, three cotypes.

Type locality.—Cape San Lucas, Baja California.

Range.—Central and southern Baja California.

LAMPROPELTIS GETULUS SPLENDIDA (Baird and Girard)

Ophibolus splendidus BAIRD and GIRARD, Catalogue of North American reptiles, 1853, p. 83.

L.[ampropeltis] g. [etulus] splendidus WRIGHT and BISHOP, Proc. Acad. Nat. Sci. Philadelphia, vol. 67, 1915, p. 168.—BLANCHARD, U. S. Nat. Mus. Bull. 114, 1921, pp. 26-32, figs. 1, 3, 8, 29, 30, 31.

Type.—U.S.N.M. No. 1726.

Type locality.—Sonora.

Range.—Southern central Oklahoma and southeastern Arizona south into the extreme northern portions of Mexico; in Mexico from northeastern Sonora east to northwestern Tamaulipas (recorded in Mexico only from "Sonora" and Río Santa María and San Diego, *Chihuahua*).

LAMPROPELTIS GETULUS YUMENSIS Blanchard

Lampropeltis getulus yumensis BLANCHARD, Occ. Pap. Mus. Zool. Univ. Michigan, No. 70, 1919, pp. 6–11, pl. 1, fig. 2.

Type.—U.S.N.M. No. 61318.

Type locality.—Twenty-seven miles west of Indian Oasis, Pima County, Ariz.

Range.—Southern Arizona (except southeast corner) and southeastern California as far north as Blythe and as far west as Seeley, south into northeastern Baja California and northwestern Sonora (recorded in mainland Mexico only from Santo Domingo, *Sonora*).

LAMPROPELTIS KNOBLOCHI Taylor

Lampropeltis knoblochi TAYLOR, Copeia, 1940, No. 4, pp. 253–255, figs. 1–2.

Type.—E. H. Taylor-H. M. Smith Coll. No. 23017.

Type locality.—Mojarachic, Chihuahua.

Range.—Known only from the type locality.

LAMPROPELTIS LEONIS (Günther)

Coronella leonis GÜNTHER, Biologia Centrali-Americana, Rept., 1893, p. 110, pl. 39, fig. A.

Lampropeltis leonis BLANCHARD, Occ. Pap. Mus. Zool. Univ. Michigan, No. 87, 1920, p. 4.—SMITH, Proc. Rochester Acad. Sci., vol. 8, 1942, pp. 205–206.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Nuevo León.

Range.—Known only from the type locality.

LAMPROPELTIS MEXICANA (Garman)

Ophibolus triangulus mexicanus GARMAN, Mem. Mus. Comp. Zool., vol. 8, No. 3, 1883, pp. 66, 155.

L.[*ampropeltis*] *mexicana* BLANCHARD, Occ. Pap. Mus. Zool. Univ. Michigan, No. 87, 1920, p. 7; U. S. Nat. Mus. Bull. 114, 1921, pp. 245–247, fig. 77.—SMITH, Proc. Rochester Acad. Sci., vol. 8, 1942, pp. 202–203, pl. 1, figs. 2, 3 (dorsal and ventral views of *O. boulengeri*, type).

Oreophis boulengeri DUGÈS, Proc. Zool. Soc. London, 1897, pp. 284–285, figs. a–h (type locality, Sierra de Santa Rosa, Guanajuato; type in Mus. Alfredo Dugès, Univ. Guanajuato, Mexico).

Type.—Mus. Comp. Zool. Nos. 4652–3, two cotypes.

Type locality.—Near San Luis Potosí, San Luis Potosí.

Range.—Central Guanajuato to central San Luis Potosí (known from Sierra de Santa Rosa, *Guanajuato*, and Alvarez and San Luis Potosí, *San Luis Potosí*).

LAMPROPELTIS NITIDA Van Denburgh

Lampropeltis nitida VAN DENBURGH, Proc. California Acad. Sci., ser. 2, vol. 5, 1895, p. 143, pl. 14.—KLAUBER, Herpetologica, vol. 1, 1936, pp. 24–26.

L.[ampropeltis] californiae nitida BLANCHARD, Occ. Pap. Mus. Zool. Univ. Michigan, No. 87, 1920, p. 3.—LINSDALE. Univ. California Publ. Zool., vol. 38, 1932, p. 378.

Type.—Calif. Acad. Sci. No. 800.

Type locality.—San José del Cabo, Baja California.

Range.—The Cape region of Baja California.

LAMPROPELTIS PYROMELANA (Cope)

Ophibolus pyromelanus COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866 (1867), p. 305.

Lampropeltis pyrrhomelaena STEJNEGER, Proc. U. S. Nat. Mus., vol. 25, 1902, pp. 152–153.—BLANCHARD, U. S. Nat. Mus. Bull. 114, 1921, pp. 231–236, figs. 5, 62 (map), 71.

Lampropeltis pyromelana VAN DENBURGH, Occ. Pap. California Acad. Sci., vol. 10, 1922, pp. 746–748, pl. 79.

Type.—U.S.N.M. No. 7845, a cotype.

Type locality.—Fort Whipple, Ariz.

Range.—Northern Utah through southeastern Arizona to central Chihuahua and eastern Sonora (recorded in Mexico from Distrito Guerrero and San Diego, *Chihuahua*, and El Tigre Mountains, *Sonora*).

LAMPROPELTIS RUTHVENI Blanchard

Lampropeltis ruthveni BLANCHARD, Occ. Pap. Mus. Zool. Univ. Michigan, No. 81, 1920, pp. 8–10, pl. 1, fig. 2.—TAYLOR, Univ. Kansas Sci. Bull., vol. 26, 1939 (1940), pp. 464–465.

Type.—U.S.N.M. No. 46558.

Type locality.—Pátzcuaro, Michoacán.

Range.—Mountains of central Michoacán (Pátzcuaro, El Sabino, and 15 km. east of Morelia).

LAMPROPELTIS THAYERI Loveridge

Lampropeltis thayeri LOVERIDGE, Occ. Pap. Boston Soc. Nat. Hist., vol. 5, 1924, pp. 137–138.—SMITH, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1944, pp. 140–142, fig. 18 (phylogenetic tree).

Type.—Mus. Comp. Zool. No. 19551.

Type locality.—Miquihuana, Tamaulipas.

Range.—Known only from the type locality and near Galeana, *Nuevo León.*

LAMPROPELTIS TRIANGULUM ANNULATA Kennicott

Lampropeltis annulata KENNICOTT, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 329.

L.[ampropeltis] triangulum annulata BLANCHARD, Occ. Pap. Mus. Zool. Univ. Michigan, No. 87, 1920, p. 5.

Type.—Acad. Nat. Sci. Phila. No. 3613.

Type locality.—Matamoros, Tamaulipas.

Range.—Extreme southern Texas to central eastern Nuevo León and probably to southern Tamaulipas, west to central Coahuila (recorded in Mexico from Cadercita, Mamulique Pass, Montemorelos, and Monterrey, *Nuevo León;* Matamoros, *Tamaulipas;* and Músquiz, *Coahuila*).

LAMPROPELTIS TRIANGULUM ARCIFERA (Werner)

Coronella micropholis arcifera WERNER, Zool. Anz., vol. 26, 1903, p. 250.

Lampropeltis triangulum arcifera SMITH, Proc. Rochester Acad. Sci., vol. 8, 1942, pp. 198–199, pl. 1, fig. 1 (dorsal view).

Lampropeltis triangulum annulata BLANCHARD, U. S. Nat. Mus. Bull. 114, 1921, pp. 159–164 (part), fig. 66 (fig. is not of typical *annulata* but of *t. arcifera*).

Type.—Naturh. Mus. Brussels.

Type locality.—Mexico.

Range.—Mountains from Morelos and eastern Michoacán eastward to the edge of the plateau in central Veracruz; probably southward in central Oaxaca (recorded from Mexico (city), *Distrito Federal;* 15 km. west of Morelia, *Michoacán;* Cuautla, *Morelos;* Necaxa, *Puebla;* Zacualtipán, *Hidalgo;* Orizaba and Mirador, *Veracruz;* and "Tehuantepec").

LAMPROPELTIS TRIANGULUM BLANCHARDI Stuart

Lampropeltis polyzona blanchardi STUART, Occ. Pap. Mus. Zool. Univ. Michigan, No. 309, 1935, pp. 1–6.—TAYLOR, Univ. Kansas Sci. Bull., vol. 26, 1939 (1940), p. 467, pl. 49.

Lampropeltis [*triangulum*] *blanchardi* DUNN, Occ. Pap. Mus. Zool. Univ. Michigan, No. 353, 1937, p. 8.

Type.—U. S. N. M. No. 68239.

Type locality.—Chichen Itzá, Yucatán.

Range.—Lowlands of Yucatán and the uplands and humid lowlands of Guerrero south of the Balsas Basin; apparently not continuous across the Isthmus of Tehuantepec (recorded from Acapulco, Amula, Chilpancingo, El Limoncito, San Luis Allende, Tierra Colorada, *Guerrero;* and several localities in *Yucatán*).

LAMPROPELTIS TRIANGULUM NELSONI Blanchard

Lampropeltis triangulum nelsoni BLANCHARD, Occ. Pap. Mus. Zool. Univ. Michigan, No. 81, 1920, pp. 6–8, table, pl. 1, fig. 1.

Type.—U. S. N. M. No. 46552.

Type locality.—Acámbaro, Guanajuato.

Range.—Mountains from eastern Guanajuato to Colima, northward to Sinaloa (recorded from one or two localities in each of the states of Colima, Guanajuato, Jalisco, Michoacán, Nayarit, Sinaloa, and Zacatecas, and from Isabel Island).

LAMPROPELTIS TRIANGULUM OLIGOZONA (Bocourt)

Coronella formosa oligozona Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 10, 1886, pp. 614–615, pl. 39, fig. 8 (in color).
Lampropeltis triangulum oligozona Smith, Proc. Rochester Acad. Sci., vol. 8, 1942, pp. 201–202.

Type.—Mus. Hist. Nat. Paris, two cotypes.

Type locality.—"Tehuantepec."

Range.—Foothills on Pacific slopes of southern Guatemala northwestward through the mountains of southern Chiapas to the Isthmus of Tehuantepec (only definite locality in Mexico is Huehuetán, *Chiapas*).

LAMPROPELTIS TRIANGULUM POLYZONA Cope

Lampropeltis polyzona Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 258.—Ditmars, Snakes of the world, 1931, pl. 22 (lower fig.).
Lampropeltis triangulum polyzona Dunn, Occ. Pap. Mus. Zool. Univ. Michigan, No. 353, 1937, p. 1.—Smith, Proc. Rochester Acad. Sci., vol. 8, 1942, pp. 200–202.

Type.—Acad. Nat. Sci. Phila. No. 9770.

Type locality.—Cuatupe, near Jalapa, Veracruz.

Range.—Central Veracruz southward into Guatemala and British Honduras (recorded from numerous localities in *Veracruz*, San Cristóbal, *Oaxaca*, Macuspana and Teapa, *Tabasco*, and San Diego, *Puebla*).

LAMPROPELTIS TRIANGULUM SCHMIDTI Stuart

Lampropeltis triangulum schmidti Stuart, Occ. Pap. Mus. Zool. Univ. Michigan, No. 323, 1935, pp. 1–3.

Type.—Brit. Mus. Nat. Hist. No. 81.10.1.97.

Type locality.—Tres Marías Islands.

Range.—The type locality and the adjacent mainland (known definitely only from María Madre Island and from Tenacatita Bay, *Jalisco*).

LAMPROPELTIS ZONATA ZONATA (Lockington ex Blainville)[42]

?*Coluber* (*Zacholus*) *zonatus* Blainville, Nouv. Ann. Mus. Hist. Nat. Paris, ser. 3, vol. 4, 1835, p. 293 (type locality, California; type lost).

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[42] Klauber (Bull. Zool. Soc. San Diego, No. 18, 1943, pp. 44–46) shows that, although the coral kingsnake, of all known in western United States, fits best the description of *Coluber zonatus* Blainville, the information given is so scanty that association of the name with any species is dubious. In brief, Klauber considers Blainville's name unidentifiable as of 1943, although in 1936 Blanchard (in Burt, Copeia, 1936, pp. 96–97) accepted its identifiability with the coral kingsnake. Of the earlier reviewers of the species, Stejneger (Proc. U. S. Nat. Mus., vol. 25, 1902, p. 153) regards the name unidentifiable, while Van Denburgh (*loc. cit.*) accepts it. The preponderance of opinion and weight of argument, however, appear to favor consideration of Blainville's name as unidentifiable even as of the time of its publication.

Although rejected by Peters (Copeia, 1938, p. 93) the reasoning expressed by Hubbs (in Burt, *op. cit.*, pp. 95–96), based primarily on Opinion 97 of the International Commission on Zoological Nomenclature, is upheld by Opinion 126. The latter implicitly recommends that names not adequately diagnosed as of the time of publication can be used by any author for a later diagnosis of a species that may reasonably be the same as the original, and that only if the later name be applied to a clearly different species than the original can

Bellophis zonatus LOCKINGTON, Proc. California Acad. Sci., ser. 1, vol. 7, 1876, pp. 52–53.

Lampropeltis zonata VAN DENBURGH (part), Occ. Pap. California Acad. Sci., vol. 5, 1897, pp. 167–169; vol. 10, 1922, pp. 748–751, pl. 80.

Lampropeltis zonata zonata KLAUBER, Trans. San Diego Soc. Nat. Hist., vol. 10, 1943, p. 76.

Coronella multifasciata BOCOURT, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 10, 1886, pp. 616–617, pl. 40, fig. 2 (type locality, California; type in Mus. Hist. Nat. Paris).

Lampropeltis multicincta multifasciata KLAUBER, Trans. San Diego Soc. Nat. Hist., vol. 10, 1943, pp. 75–82.

Type.—Destroyed.

Type locality.—Santa Barbara, Calif.

Range.—"The Coast Range of California from Del Norte County south to northern Lower California, where it intergrades with *L. m. agalma* in the Sierra Juarez."

LAMPROPELTIS ZONATA AGALMA Van Denburgh and Slevin

Lampropeltis agalma VAN DENBURGH and SLEVIN, Proc. California Acad. Sci., ser. 4, vol. 13, 1923, p. 2.

Lampropeltis multicincta agalma KLAUBER, Trans. San Diego Soc. Nat. Hist., vol. 10, 1943, pp. 75–82.

Lampropeltis zonata agalma KLAUBER, *ibid.*, p. 76.

Type.—Calif. Acad. Sci. No. 56856.

Type locality.—Alcatraz, San Pedro Mártir Mountains, Baja California.

Range.—The San Pedro Mártir Mountains, Baja California.

LAMPROPELTIS ZONATA HERRERAE Van Denburgh and Slevin

Lampropeltis herrerae VAN DENBURGH and SLEVIN, Proc. California Acad. Sci., ser. 4, vol. 13, 1923, p. 2.

Lampropeltis multicincta herrerae KLAUBER, Trans. San Diego Soc. Nat. Hist., vol. 10, 1943, pp. 75–82.

Type.—Calif. Acad. Sci. No. 56755.

Type locality.—South Todos Santos Island, Baja California.

Range.—The type locality.

Genus LEPTODEIRA Fitzinger

Leptodeira FITZINGER, Systema reptilium, 1843, p. 27.—DUNN, Proc. Nat. Acad. Sci., vol. 22, 1936, pp. 689–698 (brief review of North American species).—TAYLOR, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 315–342, pls. 30–34 (Mexican species).

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it be considered a homonym suppressed by the earlier name. If the decision of the Opinions be followed, and Blainville's name be considered unidentifiable, then as Hubbs maintained Lockington's name is valid nomenclaturally and, under the circumstances, zoologically as well.

The style of authorship quotation used for this name is that recommended by Opinion 126.

Megalops Hallowell (*nec* Lacepède), Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860 (1861), p. 188 (type, *M. maculata* Hallowell).

Leptodira Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866, p. 127 (emendation; type, *Coluber annulatus* Linnaeus).

Anoplophallus Cope, Amer. Nat., vol. 27, 1893, p. 480 (substitute for *Megalops* Hallowell, preoccupied; type, *M. maculata* Hallowell).

Genotype.—*Coluber annulatus* Linnaeus.

Range.—Extreme southern Texas and Sonora south on both coasts into South America.

Species.—Sixteen species and subspecies occur in Central America and Mexico; 13 occur in Mexico. Several other species are known from South America.

KEY TO MEXICAN FORMS OF LEPTODEIRA

1. Most of dorsal bands involving extreme tips of ventrals ---------- 2
   Few if any dorsal bands involving tips of ventrals ---------- 5
2. Bands on body over 16 (18 to 30) ---------- 3
   Bands on body less than 17 (10 to 15) ---------- 4
3. Bands narrowly separated from each other, medially by less than one scale length, laterally by one and one-half ---------- frenata
   Bands more widely separated from each other ---------- yucatanensis yucatanensis
4. Anterior and posterior edges of bands irregularly diagonal, seldom straight, ventrals 166 to 173 ---------- smithi
   Anterior and posterior edges of bands nearly straight, vertical; ventrals 187 to 196 ---------- mystacina
5. Ventrals over 192 ---------- 6
   Ventrals less than 192 ---------- 8
6. Bands reaching second scale row or farther at least posteriorly. annulata septentrionalis
   Bands seldom reaching as far as third scale row ---------- 7
7. Bands on body 49 or more ---------- annulata polysticta
   Bands on body 47 or less ---------- annulata taylori
8. Dorsal spots very small and numerous, about as long as a scale; ventrals 149 to 164 ---------- punctata
   Dorsal spots larger; ventrals 160 or more ---------- 9
9. A middorsal, longitudinal dark stripe or spot on nape ---------- 10
   No such mark; usually a narrow, light collar ---------- maculata
10. Dorsal bands on body reaching first or second scale row ---------- 12
    Dorsal bands on body not extending beyond third scale row ---------- 11
11. Dorsal bands 19 to 25 on body ---------- splendida
    Dorsal bands 32 to 38 on body ---------- bressoni
12. Preoculars generally two, sometimes one; one or two distinct, light-edged, oval dark spots on each parietal ---------- yucatanensis malleisi
    Preoculars three; no distinctly outlined dark spots on parietal ---------- 13
13. Ventrals 186 to 197; posterior scale rows generally 15 or 16, rarely 17; median nape stripe reduced to an elongate spot at posterior edge of parietal; lateral spots dim or absent; postocular stripe dim, not nearly reaching first dorsal blotch ---------- annulata septentrionalis
    Ventrals fewer, 180 to 182; posterior scale rows 17; a longitudinal nape stripe extending from posterior tip of parietals to first dorsal blotch; lateral spots and postocular stripes more distinct ---------- ephippiata

LEPTODEIRA ANNULATA POLYSTICTA Günther

Leptodeira polysticta GÜNTHER, Biologia Centrali-Americana, Rept., 1895, pl. 55, fig. A.

Leptodeira annulata polysticta STUART, Misc. Publ. Mus. Zool. Univ. Michigan, No. 29, 1935, p. 52.—TAYLOR, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 331–333 (part), pl. 30, fig. 3.—SMITH, Proc. Biol. Soc. Washington, vol. 54, 1941, p. 115; Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 438–439.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Restricted to Belize, British Honduras.

Range.—Tabasco and Nayarit southward on both coasts to Panama, including the Yucatán Peninsula (recorded in Mexico from numerous localities in the states of Campeche, Chiapas, Colima, Jalisco, Michoacán, Morelos, Nayarit, Oaxaca, Tabasco, and Yucatán, and from the territory of Quintana Roo).

LEPTODEIRA ANNULATA SEPTENTRIONALIS (Kennicott)

Dipsas septentrionalis KENNICOTT, *in* Baird, Rep. U. S. Mex. Bound. Surv., vol. 2, 1859, Rept., p. 16, pl. 8, fig. 1.

Leptodeira septentrionalis TAYLOR, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 329–331, fig. 4; vol. 26, 1939 (1940), p. 480.—DITMARS, Reptiles of North America, 1936, p. 302, pl. 89, upper fig.

Leptodeira annulata septentrionalis SMITH, Proc. Biol. Soc. Washington, vol. 54, 1941, p. 117; Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1944, p. 143.

Type.—U.S.N.M. No. 4267, two cotypes (also U.S.N.M. No. 2288, missing).

Type locality.—Matamoros, Tamaulipas, and Brownsville, Tex.

Range.—Extreme southern Texas to northern Veracruz (recorded in Mexico from several localities in the states of Nuevo León, Tamaulipas, northern Veracruz, San Luis Potosí, Querétaro, and Hidalgo; the more southerly specimens approach *taylori* in character).

LEPTODEIRA ANNULATA TAYLORI Smith

Leptodeira annulata taylori SMITH, Proc. Biol. Soc. Washington, vol. 54, 1941, p. 115.

Type.—U.S.N.M. No. 30208.

Type locality.—Orizaba, Veracruz.

Range.—Northern Veracruz to the Isthmus of Tehuantepec (known from several localities in Veracruz, and in the extreme eastern part of Puebla).

LEPTODEIRA BRESSONI Taylor

Leptodeira bressoni TAYLOR, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 321–325, fig. 2, pl. 31, fig. 4, pl. 33, fig. 4.

Type.—E. H. Taylor-H. M. Smith Coll. No. 5172.

Type locality.—Hacienda El Sabino, 20 miles south of Uruapan, Michoacán.

Range.—Colima and southern Michoacán north to southern Sinaloa (recorded from Quesería, *Colima;* El Sabino, *Michoacán;* and Plomosas, *Sinaloa*).

LEPTODEIRA EPHIPPIATA Smith and Tanner

Leptodeira bressoni TAYLOR, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), p. 324 (part).

Leptodeira ephippiata SMITH and TANNER, Copeia, 1944, pp. 131–133.

Type.—Mus. Vert. Zool. No. 28931.

Type locality.—Agua Marín, 8.3 miles west-northwest of Alamos, Sonora.

Range.—Pacific slopes (probably excluding the coastal plain) from southern Sonora to southern Sinaloa, and probably Nayarit (known only from the type locality and Plomosas, *Sinaloa*).

LEPTODEIRA FRENATA (Cope)

Sibon frenatum COPE, *in* Ferrari-Perez, Proc. U. S. Nat. Mus., vol. 9, 1886, p. 184.

Leptodeira frenata DUNN, Proc. Nat. Acad. Sci., vol. 22, 1936, p. 696.—SMITH, Proc. Biol. Soc. Washington, vol. 52, 1939, pp. 192–195, fig. 8.

Type.—Lost.

Type locality.—Jalapa, Veracruz.

Range.—Central Veracruz, probably to the Isthmus of Tehuantepec (recorded only from Jalapa and Palma Sola, *Veracruz*).

LEPTODEIRA MACULATA (Hallowell)

Megalops maculatus HALLOWELL, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860 (1861), p. 468.

Leptodeira septentrionalis maculata DUNN, Proc. Nat. Acad. Sci., vol. 22, 1936, p. 697.

Leptodeira maculata TAYLOR, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 337–342, figs. 6–7, pl. 31, fig. 1, pl. 32, pl. 33, figs. 1–3.—SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 440–441.

Leptodeira personata COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 20, 1868 (1869), p. 310 (type locality, Mazatlán, Sinaloa).

Type.—U.S.N.M. No. 7367.

Type locality.—"Tahiti," by error; probably Central America.

Range.—Central Tamaulipas and southern Sinaloa south on both coasts to the Isthmus of Tehuantepec; thence southward to Costa Rica on the Pacific coast only (recorded from numerous localities in Mexico in the states of Chiapas, Colima, Guerrero, Hidalgo, Jalisco, Michoacán, Nayarit, Oaxaca, Puebla, San Luis Potosí, Sinaloa, Tamaulipas, and Veracruz.).

LEPTODEIRA MYSTACINA Cope

Leptodeira mystacina COPE, Proc. Amer. Philos. Soc., vol. 11, 1869, p. 151.—TAYLOR, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 325–326; vol. 27, 1941, pp. 124–125, fig. 4 (head).—SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 441.

Type.—U.S.N.M. Nos. 30339–40, two cotypes.

Type locality.—"Western region of Mexico near the Isthmus of Tehuantepec."

Range.—Pacific slopes from central southern Guerrero to the Isthmus of Tehuantepec (recorded from several localities in southern Guerrero and Oaxaca).

LEPTODEIRA PUNCTATA (Peters)

Crotaphopeltis punctatus PETERS, Monatsb. Akad. Wiss. Berlin, 1866, pp. 93–94.

Leptodeira punctata BOULENGER, Zoologist, 1887, p. 178.—TAYLOR, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), p. 319, pl. 30, fig. 1.

Leptodeira pacifica COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 20, 1868 (1869), p. 310 (type locality, Mazatlán, Sinaloa; type, U.S.N.M. No. 6833).—DUNN, Proc. Nat. Acad. Sci., vol. 22, 1936, p. 694.

Type.—Berlin Mus.

Type locality.—"South Africa" by error; probably western Mexico.

Range.—Central Sinaloa south to extreme western Jalisco (recorded only from Presidio and Mazatlán, *Sinaloa*, and Lake Chapala, *Jalisco*).

LEPTODEIRA SMITHI Taylor

Leptodeira smithi TAYLOR, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 334–336, fig. 5, pl. 31, fig. 2.—SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 442.

Type.—E. H. Taylor-H. M. Smith Coll. No. 5187.

Type locality.—Hacienda El Sabino, 19 miles south of Uruapan, Michoacán.

Range.—Río Balsas Basin in Guerrero, Michoacán, and possibly Morelos and Oaxaca (recorded from several localities in *Michoacán*, and Balsas, *Guerrero*).

LEPTODEIRA SPLENDIDA Günther

Leptodeira splendida GÜNTHER, Biologia Centrali-Americana, Rept., 1895, p. 171, pl. 53, fig. B.—TAYLOR, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 320–321, fig. 1, pl. 30, fig. 2.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Izucar, Puebla.

Range.—Morelos, northern Guerrero, and southwestern Puebla.

LEPTODEIRA YUCATANENSIS YUCATANENSIS (Cope)

Sibon annulata yucatanensis COPE, U. S. Nat. Mus. Bull. 32, 1887, p. 67.

Leptodeira yucatanensis yucatanensis DUNN and STUART, Occ. Pap. Mus. Zool. Univ. Michigan, No. 313, 1935, p. 2.

?*Leptodeira dunckeri* WERNER, Mitt. Nat. Mus. Hamburg, vol. 30, 1913, pp. 28–29 (type locality, Mexico or Venezuela; type in Hamburg Mus.).

Type.—U. S. N. M. No. 24887.

Type locality.—Yucatán.

Range.—The northern portion of the Yucatán Peninsula (several records are from *Yucatán*, including Cozumel Island).

LEPTODEIRA YUCATANENSIS MALLEISI Dunn and Stuart

Leptodeira yucatanensis malleisi Dunn and Stuart, Occ. Pap. Mus. Zool. Univ. Michigan, No. 313, 1935, pp. 1–4.—Taylor, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 327–328, fig. 3, pl. 34, fig. 3.

Type.—Univ. Mich. Mus. Zool. No. 73230.

Type locality.—Tuxpeña, Campeche.

Range.—Campeche, western Yucatán through northern Chiapas to Petén and British Honduras (recorded in Mexico from Cozumel Island and Colonia Santa María, *Yucatán;* Tuxpeña, Encarnación, Pital, and Balchacaj, *Campeche;* and Palenque, *Chiapas*).

Genus LEPTOPHIS Bell

Leptophis Bell, Journ. Zool., vol. 2, 1825, p. 328.—Oliver, Occ. Pap. Mus. Zool. Univ. Michigan, No. 462, 1942, pp. 1–16 (annotated check list).

Genotype.—*Leptophis ahaetulla* Bell (=*Coluber ahaetulla* Linnaeus).

Range.—Nayarit and Tamaulipas southward on both coasts to Paraguay.

Species.—Three; two, including two subspecies each, occur in Mexico; 14 other species and subspecies occur in Central and South America.

KEY TO MEXICAN FORMS OF LEPTOPHIS

1. No loreal ---------- occidentalis praestans
   A loreal ---------- 2
2. Vertebral scales slightly enlarged; paravertebral scales keeled (strongly on posterior part of body), others smooth ---------- 4
   Vertebral scales not at all enlarged; all dorsal scales except those in lateral (first) row keeled, at least on posterior part of body ---------- 3
3. Black lateral stripes 1½ to 2½ scale rows wide on posterior part of body; ventrals 165 to 174, average 168 ---------- mexicanus yucatanensis
   Black lateral stripes obsolete or narrower on posterior part of body; ventrals 151 to 173, average 163 ---------- mexicanus mexicanus
4. Ventrals 185 to 186, caudals 160 to 166 in known specimens ---------- diplotropis forreri
   Ventrals 165 to 181, caudals 126 to 161 ---------- diplotropis diplotropis

LEPTOPHIS DIPLOTROPIS DIPLOTROPIS (Günther)

Ahaetulla diplotropis Günther, Ann. Mag. Nat. Hist., ser. 4, vol. 9, 1872, pp. 25–26, pl. 6, fig. A; Biologia Centrali-Americana, Rept., 1894, p. 130.

Leptophis diplotropis [*diplotropis*] Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 15, 1897, pp. 835–837, pl. 64, fig. 3.—Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 442–443.

Leptophis diplotropis aeneus Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 15, 1897, p. 837 (type locality not stated, possibly Michoacán or Jalisco; type in Mus. Hist. Nat. Paris).

Type.—Brit. Mus. Nat. Hist., three cotypes.

Type locality.—Tehuantepec.

Range.—Nayarit to the Isthmus of Tehuantepec (recorded from numerous localities in the states of Guerrero, Jalisco, Michoacán, Nayarit, Oaxaca, Sinaloa, and Sonora).

LEPTOPHIS DIPLOTROPIS FORRERI Smith

Leptophis diplotropis forreri SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 443.

Type.—Brit. Mus. Nat. Hist., spec. *m* of Boulenger's Catalogue of the snakes in the British Museum, vol. 2, 1894, p. 111.

Type locality.—Tres Marías Islands.

Range.—The type locality.

LEPTOPHIS MEXICANUS MEXICANUS Duméril, Bibron, and Duméril

Leptophis mexicanus DUMÉRIL, BIBRON, and DUMÉRIL, Erpétologie générale, vol. 7, pt. 1, 1854, pp. 536–537.—DITMARS, Snakes of the world, 1931, pl. 19 (upper fig.).

Leptophis mexicanus mexicanus OLIVER, Occ. Pap. Mus. Zool. Univ. Michigan, No. 462, 1942, p. 10.

Ahaetulla modesta GÜNTHER, Ann. Mag. Nat. Hist., ser. 4, vol. 9, 1872, p. 26, pl. 6, fig. C (type locality, Río Chisoy, below Cubulco, Guatemala; type in Brit. Mus. Nat. Hist.).

Herpetodryas carinatus BARBOUR and COLE (*nec* Linnaeus), Bull. Mus. Comp. Zool., vol. 50, 1906, p. 152.

Chironius carinatus SCHMIDT and ANDREWS (*nec* Linnaeus), Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1936, pp. 173, 186.

Type.—Mus. Hist. Nat. Paris, two cotypes.

Type locality.—Mexico.

Range.—Southern Tamaulipas and Nayarit south along both coasts to Costa Rica, excluding northern Yucatán (recorded from numerous localities in the states of Campeche, Chiapas, Guerrero, Jalisco, Nayarit, Oaxaca, Puebla, San Luis Potosí, Tabasco, Tamaulipas, and Veracruz).

LEPTOPHIS MEXICANUS YUCATANENSIS Oliver

Leptophis mexicanus yucatanensis OLIVER, Occ. Pap. Mus. Zool. Univ. Michigan, No. 462, 1942, pp. 10–12.

Type.—Mus. Zool. Univ. Mich. No. 83940.

Type locality.—Cobá, Quintana Roo.

Range.—Northern part of Yucatán Peninsula (known only from the state of Yucatán and territory of Quintana Roo).

LEPTOPHIS OCCIDENTALIS PRAESTANS (Cope)

Thrasops praestans COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 20, 1868, pp. 309–310.

Leptophis occidentalis praestans OLIVER, Occ. Pap. Mus. Zool. Univ. Michigan, No. 462, 1942, pp. 16–17.

L.[eptophis] occidentalis COPE, Proc. Amer. Philos. Soc., vol. 23, 1886, p. 279.—DITMARS, Snakes of the world, 1931, pl. 19 (lower fig.).

Cotypes.—U.S.N.M. No. 6754.

Type locality.—Petén, Guatemala.

Range.—Guerrero and Veracruz southward into Honduras (recorded in Mexico only from Teapa, *Tabasco;* Amula, *Guerrero;* Motzorongo, *Veracruz;* and Colonia Santa María, *Yucatán*).

Genus MANOLEPIS Cope

Manolepis Cope, Proc. Amer. Philos. Soc., vol. 22, 1884 (1885), p. 176.

Genotype.—*Tomodon nasutus* Cope.

Range.—Western Mexico from Nayarit to Tehuantepec.

Species.—One.

MANOLEPIS PUTNAMI (Jan) [43]

Dromicus putnami Jan, Elenco sistematico degli Ofidi, 1863, p. 67 (type locality, San Blas, Nayarit; type, Mus. Comp. Zool. No. 824) [a secondary homonym of *Dromicus putnamii* (Cope, 1862) (*Liophis putnamii* Cope=*Dromicus cursor* (Lacepède))].

Tomodon nasutus Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 16, 1864, pp. 166–167 (type locality, Colima; type, U.S.N.M. Nos. 31478–31479, two cotypes).

Manolepis nasutus Cope, Proc. Amer. Philos. Soc., vol. 22, 1884 (1885), p. 176.—Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 445–446.

Type.—Mus. Comp. Zool. No. 824.

Type locality.—San Blas, Nayarit.

Range.—The Pacific coast from Nayarit to the Isthmus of Tehuantepec (recorded from several localities in the states of Colima, Guerrero, Jalisco, Nayarit, and Oaxaca).

Genus MASTICOPHIS Baird and Girard

Masticophis Baird and Girard, Catalogue of North American reptiles, 1853, p. 98.—Ortenburger, Mem. Univ. Michigan Mus., vol. 1, 1928, pp. 1–166, figs. 1–32, pls. 1–26 (generic revision).—Smith, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 388–398 (notes on Mexican species and their phylogeny).—Inger and Clark, Copeia, 1943, pp. 141–145.

Genotype.—*Masticophis ornatus* Baird and Girard.

Range.—Southern United States south through Mexico and Central America to northern South America.

Species.—Nineteen species and subspecies, of which only three are extralimital (*ortenburgeri*, *f. flagellum*, and *m. suborbitalis*).

KEY TO MEXICAN FORMS OF MASTICOPHIS

1. Scales in 15 rows -- 2
   Scales in 17 rows -- 6
2. A distinct lateral light stripe involving edges of third and all or adjacent edges of fourth row at least in young ------------------------------ 3
   No distinct lateral light stripe involving third and fourth rows in either adults or young ---------------------------------- taeniatus ruthveni

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[43] *Manolepis nasutus* (Cope) to those who suppress secondary homonyms.

3. Upper lateral light stripe involving fifth row of scales---- 4
Upper lateral light stripe confined to adjacent edges of third and fourth rows, always continuous---- 5

4. Lateral light stripe broken or partially interrupted anteriorly, not reaching anal region---- taeniatus ornatus
Lateral stripe continuous and uniform in character throughout its length, reaching anal region---- taeniatus taeniatus

5. A very distinct, light lateral stripe on adjacent edges of ventrals and first row of dorsals in young; adults marked like young, with a distinct, continuous light line on rows 3 and 4---- taeniatus schotti
No or only faint evidence of a lateral light stripe on adjacent edges of ventrals and first row of dorsals in young; adults with interrupted lateral light stripes, and scales on head not light-edged. taeniatus australis

6. A single labial entering orbit---- mentovarius mentovarius
Two labials entering orbit---- 7

7. No longitudinal light stripes exclusively on lateral rows anteriorly; if present, equally distinct on dorsal as on lateral rows---- 12
Lateral light stripes present anteriorly, these more distinct than dorsal light stripes (if any)---- 8

8. Lips heavily mottled---- mentovarius mentovarius
Lips mostly white, bordered above by black---- 9

9. Pattern consisting of one or more dark lateral stripes---- 10
Pattern consisting of a single lateral light stripe upon a very dark ground color---- 11

10. Dark stripe on scale rows 2 and 3 interrupted by light cream areas at intervals of five to seven scales---- aurigulus
Stripes not interrupted, sometimes quite short, at other times extending nearly the length of the body---- bilineatus

11. Light stripe on scale rows three and four of uniform width throughout. lateralis
Light lateral stripe widening at intervals of four to seven scales---- barbouri

12. In young, neck bands much darker than succeeding bands, considerably broader than spaces between them; in adults, neck bands always visible; a longitudinal white stripe through loreal---- flagellum piceus
In young, neck bands not greatly darker than those following; in adults, if bands are visible at all, they are narrower than spaces between them; no distinct white stripe through loreal---- 13

13. *Irregularly* scattered, short, black lines on dorsal surface, none involving more than a single scale; subcaudals 96 to 112---- anthonyi
No such lines, or if present they are regularly distributed on nearly all scales---- 14

14. Caudals 109 or more; a dark spot at base of each scale; usually no dark lines through centers of anterior scales---- 16
Caudals usually less; no dark spots at bases of scales, or if so a dark line through the center of anterior scales---- 15

15. In adults, a dark line through center of each scale at least on anterior part of body, and at least subcaudal surface salmon-red *in preserved specimens* (as well as live); in young, dark bands broader than light interspaces, which are incomplete and irregular---- flagellum lineatulus
No dark lines through centers of scales; ventral surfaces not red except in live or very recently preserved specimens; young with narrow,

dark cross bands, narrower than light interspaces, which are complete -- flagellum testaceus

16. Ventrals 192 to 197, in males, 195 to 197 in females------ flagellum variolosus
Ventrals 183 to 193 in males, 184 to 194 in females-------- flagellum lineatus

MASTICOPHIS ANTHONYI (Stejneger)

Bascanion anthonyi Stejneger, Proc. U. S. Nat. Mus., vol. 23, 1901, pp. 715–717.

Masticophis anthonyi Ortenburger, Occ. Pap. Mus. Zool. Univ. Michigan, No. 139, 1923, p. 2; Mem. Univ. Michigan Mus., vol. 1, 1928, pp. 141–145, pl. 26.

Type.—U.S.N.M. No. 24390.

Type locality.—Clarion Island, Revillagigedo Archipelago.

Range.—The type locality.

MASTICOPHIS AURIGULUS (Cope)

Drymobius aurigulus Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861, p. 301.

Masticophis aurigulus Ortenburger, Occ. Pap. Mus. Zool. Univ. Michigan, No. 139, 1923, p. 2.

Type.—U.S.N.M. No. 5793.

Type locality.—Cape San Lucas, Baja California.

Range.—Cape region of Baja California.

MASTICOPHIS BARBOURI (Van Denburgh and Slevin)

Coluber barbouri Van Denburgh and Slevin, Proc. California Acad. Sci., ser. 4, vol. 11, No. 6, 1921, p. 98.

Masticophis aurigulus Ortenburger, Occ. Pap. Mus. Zool. Univ. Michigan, No. 139, 1923, p. 2.

Type.—Calif. Acad. Sci. No. 49157.

Type locality.—Isla Partida, Espíritu Santo Island, Baja California.

Range.—The type locality.

MASTICOPHIS BILINEATUS Jan

Masticophis bilineatus Jan, Elenco sistematico degli Ofidi, 1863, p. 65; Iconographie générale des ophidiens, livr. 22, 1867, pl. 6, fig. 2.—Smith, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 389–390.

Bascanium semilineatum Cope, Proc. U. S. Nat. Mus., vol. 14, 1891, pp. 622, 626–628 (type locality, Colorado River Bottom; type, U.S.N.M. No. 1981).

Masticophis semilineatus Ortenburger, Occ. Pap. Mus. Zool. Univ. Michigan, No. 139, 1923, p. 2; Mem. Univ. Michigan Mus., vol. 1, 1928, pp. 48–57, pls. 11–13.

Type.—Leipzig Mus.

Type locality.—Western Mexico?

Range.—Southeastern Arizona, extreme southwestern New Mexico, and southward through eastern Sonora and western Chihuahua, Zacatecas and Jalisco to central Oaxaca (recorded in Mexico from the states of Chihuahua, Colima, Jalisco, Nayarit, Oaxaca, Sonora, and Zacatecas; a record from San Pedro, *Coahuila* (M.C.Z. No. 4581) seems doubtful).

MASTICOPHIS FLAGELLUM LINEATULUS Smith

Masticophis flagellum lineatulus SMITH, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 394–397.

Type.—U.S.N.M. No. 105292.

Type locality.—Eleven miles south of San Buenaventura, Chihuahua.

Range.—Extreme southern New Mexico southward to northern Durango and southern Coahuila (recorded from the Mexican states of Chihuahua, Coahuila, Durango, San Luis Potosí, and Guanajuato; literature records from Querétaro and Michoacán are probably, but not certainly, referable to this race).

MASTICOPHIS FLAGELLUM LINEATUS (Bocourt) [44]

Bascanion lineatus BOCOURT, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 12, 1890, pp. 700–701, pl. 48, fig. 1.

Masticophis lineatus ORTENBURGER, Occ. Pap. Mus. Zool. Univ. Michigan, No. 139, 1923, p. 2; Mem. Univ. Michigan Mus. Zool., vol. 1, 1928, pp. 134–138, pl. 25.

Coluber striolatus MERTENS, Zoologica (Stuttgart), vol. 32, 1934, p. 190 (substitute name for *Coluber lineatus* [Bocourt], a secondary homonym of *Coluber lineatus* Linnaeus [=*Lygophis lineatus*]).

Type.—Mus. Hist. Nat. Paris.

Type locality.—Mexico.

Range.—Southern Sonora southward at low elevations into Guerrero and in the Balsas Basin probably to Oaxaca and Puebla (recorded from the states of Colima, Guerrero, Jalisco, Michoacán, Morelos, Nayarit, Sonora, and Sinaloa).

MASTICOPHIS FLAGELLUM PICEUS (Cope)

Bascanium piceum COPE, Proc. U. S. Nat. Mus., vol. 14, 1892, p. 625.

Masticophis flagellum piceus TANNER, Copeia, No. 163, 1927, p. 57.—SMITH, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 397–398.

Masticophis piceus ORTENBURGER, Mem. Univ. Michigan Mus. Zool., vol. 1, 1928, pp. 125–134, fig. 26, pls. 22–24.

Coluber flagellum piceus KLAUBER, Copeia, 1942, pp. 88–97.

Bascanion flagellum frenatum STEJNEGER, North Amer. Fauna, No. 7, 1893, pp. 208–209 (type locality, Mountain Spring, Colorado Desert, San Diego County, Calif.; type, U.S.N.M. No. 16340) (a secondary homonym of *Herpetodryas frenatus* Gray [=*Elaphe frenatus* (Gray)], placed in *Coluber* by Boulenger [Fauna of British India, Rept., 1890, p. 335], in which genus *frenatum* Stejneger was placed by Grinnell and Camp [Univ. California Publ. Zool., vol. 17, 1917, p. 190] and by numerous other subsequent authors).

Masticophis flagellum frenatus ORTENBURGER, Mem. Univ. Michigan Mus. Zool., vol. 1, 1928, pp. 112–125, figs. 23–25, pls. 20–21.

Zamenis lateralis fuliginosus COPE, Amer. Nat., vol. 29, 1895, p. 679 (type locality, Santa Margarita Island, Baja California; type, U.S.N.M. Nos. 15135–15136, two cotypes).

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[44] *Masticophis flagellum stirolatus* (Mertens) to those who suppress secondary homonyms.

Type.—U.S.N.M. No. 7891.

Type locality.—Camp Grant, Ariz.

Range.—Central Nevada and California, and southwestern Utah southward through Baja California, Sonora, and northern Sinaloa; Tiburón Island.

MASTICOPHIS FLAGELLUM TESTACEUS (Say)

Coluber testaceus SAY, Long's Expedition to the Rocky Mountains, vol. 2, 1823, p. 48.

Coluber flagellum testaceus KLAUBER, Copeia, 1942, p. 93.

Masticophis flagellum testaceus SCHMIDT and OWENS, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1944, p. 110.

Psammophis flavi-gularis HALLOWELL, Proc. Acad. Nat. Sci. Philadelphia, vol. 6, 1852, p. 178 (type locality, Cross Timbers, Indian Territory; type, Acad. Nat. Sci. Phila. No. 5388).

Masticophis flagellum flavigularis ORTENBURGER, Occ. Pap. Mus. Zool. Univ. Michigan, No. 139, 1923, p. 2; Mem. Univ. Michigan Mus., vol. 1, 1928, pp. 92–104 (part), pls. 16–19.—SMITH, Journ. Washington Acad. Sci., vol. 31, 1941, p. 397.

Type.—None known.

Type locality.—Near headwaters of the Arkansas River, Colo.

Range.—Central Kansas and southeastern Colorado south through central New Mexico and central Texas to northern San Luis Potosí on the east and extreme northeastern Sonora on the west; does not reach the Mexican border in extreme western Texas and southern New Mexico (recorded in Mexico from Coahuila, Nuevo León, San Luis Potosí, Sonora, and Tamaulipas).

MASTICOPHIS FLAGELLUM VARIOLOSUS Smith

Masticophis flagellum variolosus SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 448–449.

Type.—U.S.N.M. No. 24681.

Type locality.—María Magdalena Island, Tres Marías Islands.

Range.—Tres Marías Islands (recorded definitely only from María Magdalena Island).

MASTICOPHIS LATERALIS (Hallowell)

Leptophis lateralis HALLOWELL, Proc. Acad. Nat. Sci. Philadelphia, vol. 6, 1853, p. 237.

Masticophis lateralis ORTENBURGER, Occ. Pap. Mus. Zool. Univ. Michigan, No. 139, 1923, p. 2; Mem. Univ. Michigan Mus., vol. 1, 1928, pp. 58–67, pls. 14–15.

Type.—Acad. Nat. Sci. Phila. No. 5365.

Type locality.—California.

Range.—Western California and northern half of Baja California.

MASTICOPHIS MENTOVARIUS MENTOVARIUS (Duméril, Bibron, and Duméril)

Coryphodon mento-varius DUMÉRIL, BIBRON, and DUMÉRIL, Erpétologie générale, vol. 7, pt. 1, 1854, p. 187.

Masticophis mentovarius ORTENBURGER, Occ. Pap. Mus. Zool. Univ. Michigan, No. 139, 1923, p. 2; Mem. Univ. Michigan Mus., vol. 1, 1928, pp. 138–141, pl. 25, figs. 1–2.—DITMARS, Snakes of the world, 1931, pl. 15, upper fig.—SMITH, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 388–389.

Masticophis mentovarius mentovarius SMITH, Copeia, 1942, p. 87, fig. 1 A (juvenile body pattern).

Coluber mentovarius mentovarius KAUFFELD, Copeia, 1942, pp. 177–178.

Liophis varia JAN, Arch. Zool. Anat. Fis., vol. 2, 1863, pp. 288, 298 (type locality, Veracruz; type in Paris Mus.).[44a]

Type.—U.S.N.M. Nos. 6753, 6762, two cotypes.

Type locality.—Mexico.[45]

Range.—Southeastern San Luis Potosí and possibly southern Tamaulipas southward on the Atlantic to central Guatemala; on the Pacific, from Guerrero to Costa Rica (recorded from the states of Campeche, Chiapas, Guerrero, Oaxaca, San Luis Potosí, Tamaulipas, Veracruz, and Yucatán).

MASTICOPHIS TAENIATUS TAENIATUS (Hallowell)

Leptophis taeniata HALLOWELL, Proc. Acad. Nat. Sci. Philadelphia, vol. 6, 1852, p. 181.

Masticophis taeniatus taeniatus ORTENBURGER, Occ. Pap. Mus. Zool. Univ. Michigan, No. 139, 1923, p. 2; Mem. Univ. Michigan Mus., vol. 1, 1928, pp. 25–35 (part), figs. 1 (map), 2–3, pl. 3.

Type.—U.S.N.M. No. 2110.

Type locality.—New Mexico west of the Rio Grande.

Range.—Southeastern Arizona and southern Idaho, southward through central New Mexico to extreme northern Chihuahua, westward to the Sierra Nevada in California, avoiding southwestern Arizona (known in Mexico only from the northern Lake Santa María, *Chihuahua*).

MASTICOPHIS TAENIATUS AUSTRALIS Smith

Bascanion taeniatus BOCOURT (*nec* Hallowell), Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 12, 1890, pp. 703–704, pl. 45, fig. 5, pl. 48, fig. 8.

Masticophis taeniatus taeniatus MARTÍN DEL CAMPO, Anal. Inst. Biol. Mex., vol. 7, 1936, p. 276; vol. 8, 1937, p. 264.

Masticophis taeniatus australis SMITH, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 390–392; Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 450–451.

Type.—U.S.N.M. No. 10240.

Type locality.—Guanajuato.

Range.—Southern Guanajuato and San Luis Potosí southward to central Michoacán (known from Guanajuato and Silao, *Guanajuato;* Actopan and Mixquiahuala, *Hidalgo;* La Noria and Tacícuaro, *Mi-*

[44a] The caudal and ventral counts cited, together with feeble stripes, can apply to no other known Mexican species; the name is allocated here in spite of certain implied discrepancies.

[45] Ortenburger (*loc. cit.*) gives "Between Coban and Clusec" as the type locality, but this is a lapsus; it is the type locality of a synonym, *Bascanion suboculare* Cope.

choacán; and *San Luis Potosí;* intergrades at the periphery of its range in the south and east with *t. ruthveni*).

MASTICOPHIS TAENIATUS ORNATUS Baird and Girard [46]

Masticophis ornatus BAIRD and GIRARD, Catalogue of North American reptiles, 1853, pp. 102–103.

Masticophis taeniatus ornatus SCHMIDT and SMITH, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1944, p. 90.

Coluber taeniatus girardi STEJNEGER and BARBOUR, A check list of North American amphibians and reptiles, 1917, p. 80 [a substitute name for *Coluber taeniatus ornatus* (Baird and Girard), *nec Coluber ornatus* Shaw, 1802=*Dromicus cursor* (Lacepède)].

Masticophis taeniatus girardi ORTENBURGER, Occ. Pap. Mus. Zool. Univ. Michigan, No. 139, 1923, p. 2; Mem. Univ. Michigan Mus., vol. 1, 1928, pp. 35–41, map fig. 4, table 1, pl. 4.—GLOYD and CONANT, Occ. Pap. Mus. Zool. Univ. Michigan, No. 287, 1934, p. 15, pl. 1.

Type.—U.S.N.M. No. 1971, originally two cotypes.

Type locality.—Between Indianola and El Paso, Tex.

Range.—Central Zacatecas northward through extreme eastern Chihuahua and central Coahuila to western Texas (known from the states of Chihuahua, Coahuila, Durango, and Zacatecas).

MASTICOPHIS TAENIATUS RUTHVENI Ortenburger

Masticophis ruthveni ORTENBURGER, Occ. Pap. Mus. Zool. Univ. Michigan, No. 139, 1923, pp. 3–8 (part), pls. 1–3.

Masticophis taeniatus ruthveni GLOYD and CONANT, Occ. Pap. Mus. Zool. Univ. Michigan, No. 287, 1934, p. 16.—SMITH, Journ. Washington Acad. Sci., vol. 31, 1941, pp. 392–393.

Type.—Univ. Mich. Mus. Zool. No. 57681.

Type locality.—Brownsville, Tex.

Range.—Extreme southern Texas to central eastern San Luis Potosí (recorded from the states of Nuevo León, San Luis Potosí, and Tamaulipas; specimens from Alvarez, *San Luis Potosí*, are intergrades with *t. australis*).

MASTICOPHIS TAENIATUS SCHOTTI Baird and Girard

Masticophis schotti BAIRD and GIRARD, Catalogue of North American reptiles, 1853, pp. 160–161.

Masticophis taeniatus schotti GLOYD and CONANT, Occ. Pap. Mus. Zool. Univ. Michigan, No. 287, 1934, pp. 5–14, pls. 2–3, map.

Type.—U.S.N.M. No. 1972.

Type locality.—Eagle Pass, Tex.

Range.—"Mesquite and Desert Grass Savanna area of the higher portion of the Gulf Coastal Plain of southern Texas, from the southern edge of the Edwards Plateau in the north (Hays and Bexar west through Kinney and Del Rio counties), southward to the valley of the Rio Grande," including northern Coahuila (known in Mexico only from a few localities in *Coahuila*).

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[46] *Masticophis taeniatus girardi* (Stejneger and Barbour) to those who suppress secondary homonyms.

Genus NINIA Baird and Girard

Ninia BAIRD and GIRARD, Catalogue of North American reptiles, 1853, p. 49.—DUNN, Proc. Nat. Acad. Sci., vol. 21, 1935, pp. 9–12 (generic synopsis).

Streptophorus DUMÉRIL, BIBRON, and DUMÉRIL, Erpétologie générale, vol. 7, pt. 1, 1854, pp. 514–515 (type, *S. bifasciatus* Duméril, Bibron, and Duméril).

Genotype.—*Ninia diademata* Baird and Girard.

Range.—Trinidad, Venezuela, Colombia, and Ecuador north through Central America to southern Oaxaca on the Pacific and Hidalgo on the Atlantic.

Species.—Four forms occur in Mexico. Seven distinct species are recognized, and one other (*pavimentatus* Bocourt, Guatemala) may be valid. Two species (*sebae* and *diademata*) are comprised of two subspecies each.

KEY TO MEXICAN FORMS OF NINIA

1. Black above, except nuchal collar; usually six supralabials---------------- 2
   Red above, with or without black cross bars, a yellow collar followed by a black one; usually seven supralabials---------------- 3
2. Ventrals 123 to 125 (in two specimens)---------------- diademata plorator
   Ventrals 136 to 159---------------- diademata diademata
3. Caudals in males usually less than 54 (44 to 54), in females usually less than 45 (38 to 46); ventrals in males usually more than 140 (137 to 147), in females usually more than 145 (143 to 159)---------------- sebae morleyi
   Caudals in males usually more than 54 (51 to 71), in females usually more than 45 (40 to 60); ventrals in males usually less than 140 (132 to 145), in females usually less than 145 (138 to 154)---------------- sebae sebae

NINIA DIADEMATA DIADEMATA Baird and Girard

Ninia diademata BAIRD and GIRARD, Catalogue of North American reptiles, 1853, pp. 49–50.—DUNN, Proc. Nat. Acad. Sci., vol. 21, 1935, p. 12.

Ninia diademata diademata AMARAL, Mem. Inst. Butantan, vol. 4, 1929, p. 151.—SMITH, Copeia, 1942, pp. 153–154; Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 455–456.

Streptophorus bifasciatus DUMÉRIL, BIBRON, and DUMÉRIL, Erpétologie générale, vol. 7, pt. 1, 1854, p. 520 (type locality México; type in Mus. Hist. Nat. Paris).—BOCOURT, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 9, 1883, pp. 545–546, pl. 32, fig. 10.

Type.—U.S.N.M. No. 12122.

Type locality.—Orizaba, Veracruz.

Range.—Central Veracruz to northern Honduras, avoiding most of the Yucatán Peninsula (recorded from several localities in the states of Oaxaca, Tabasco, and Veracruz).

NINIA DIADEMATA PLORATOR Smith

Ninia diademata plorator Smith, Copeia, 1942, pp. 153–154.

Type.—E. H. Taylor-H. M. Smith Coll. No. 23557.

Type locality.—Durango, Hidalgo.

Range.—Northeastern Hidalgo (known only from the type locality and Zacualtipán).

NINIA SEBAE SEBAE (Duméril, Bibron, and Duméril)

Streptophorus Sebae Duméril, Bibron, and Duméril, Erpétologie générale, vol. 7, pt. 1, 1854, p. 515.—Jan, Iconographie générale des ophidiens, livr. 12, 1865, pl. 3, fig. 4.

Ninia sebae Dunn, Proc. Nat. Acad. Sci., vol. 21, 1935, p. 11.

Ninia sebae sebae Schmidt and Andrews, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1936, p. 170.—Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 456–457.

Streptophorus sebae collaris Jan, Arch. Zool. Anat Fis., vol. 2, 1862, p. 27 (type locality, Mexico; type in Mus. Hist. Nat. Paris); Iconographie générale des ophidiens, livr. 12, 1865, pl. 3, fig. 6.

Streptophorus maculatus tessellatus Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 9, 1883, p. 550, pl. 33, fig. 4.

Type.—Mus. Hist. Nat. Paris No. 3778.

Type locality.—Mexico, restricted to Veracruz (Schmidt and Andrews, *loc. cit.*).

Range.—Costa Rica to northern Veracruz and southern Oaxaca, including Pacific Chiapas but avoiding the central and northern parts of the Yucatán Peninsula and the arid (Pacific) portions of the Isthmus of Tehuantepec (recorded from the states of Chiapas, Oaxaca, Tabasco, and Veracruz).

NINIA SEBAE MORLEYI Schmidt and Andrews

Ninia sebae morleyi Schmidt and Andrews, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1936, pp. 169–171, 185.—Andrews, *ibid.*, vol. 20, 1937, p. 357.—Smith, Occ. Pap. Mus. Zool. Univ. Michigan, No. 388, 1939, p. 19.

Type.—Field Mus. Nat. Hist. No. 20619.

Type locality.—Chichen Itzá, Yucatán.

Range.—The Yucatán Peninsula, except the extreme southern portion, including British Honduras (known from the states of Yucatán and Campeche, and from the territory of Quintana Roo).

Genus OPHEODRYS Fitzinger

Opheodrys Fitzinger, Systema reptilium, 1843, p. 26.—Schmidt and Necker, Herpetologica, vol. 1, 1936, pp. 63–64 (rearrangement of species of genus).

Cyclophis Günther, Catalogue of the snakes in the British Museum, 1858, p. 119 (type, *Coluber aestivus* Linnaeus).

Genotype.—*Coluber aestivus* Linnaeus.

Range.—Eastern Asia, eastern and central United States, Yucatán.

Species.—Seven species are known in the genus, three occurring in

America; one of the latter is comprised of two subspecies. Two species are recorded from Mexico, and another possibly occurs there.

KEY TO MEXICAN SPECIES OF OPHEODRYS

1. Dorsal scales keeled, in 17 rows------------------------------------ aestivus
   Dorsal scales smooth, in 15 rows; supralabials usually 6-------------- mayae

OPHEODRYS AESTIVUS (Linnaeus)

Coluber aestivus Linnaeus, Systema naturae, ed. 12, vol. 1, 1766, p. 387.

Opheodrys aestivus Cope, Proc. Acad. Nat. Sci. Philadelphia, 1860, p. 560.—Schmidt and Davis, Field book of snakes, 1941, pp. 118–120, fig. 27, pl. 12.

Cyclophis aestivus Cope, Ann. Rep. U. S. Nat. Mus., 1898 (1900), pp. 784–787, fig. 170.

Type.—Unknown.

Type locality.—Carolina.

Range.—Southwestern Connecticut to Florida, west to northeastern New Mexico, south through the Gulf States and to extreme northeastern Tamaulipas, north in the Mississippi Valley to southern Ohio, central Indiana, central Missouri, and southeastern Kansas (known in Mexico only from Matamoros and La Vegonia, *Tamaulipas*, and Santiago, *Nuevo León*).

OPHEODRYS MAYAE (Gaige)

Eurypholis mayae Gaige, Carnegie Inst. Washington Publ. No. 457, 1936, pp. 300–301.

Opheodrys mayae Schmidt and Necker, Herpetologica, vol. 1, 1936, p. 64.—Grobman, Misc. Publ. Mus. Zool. Univ. Michigan, No. 50, 1941, p. 10.

Type.—Univ. Mich. Mus. Zool. No. 73082.

Type locality.—Dzitás, Yucatán.

Range.—The northern portion of the Yucatán Peninsula (known from several localities in Yucatán).

Genus OXYBELIS Wagler

Oxybelis Wagler, Natürliches System der Amphibien, 1830, p. 183.

Genotype.—*Dryinus aeneus* Wagler.

Range.—Extreme southwestern United States and both coasts of Mexico southward to northern Argentina.

Species.—Six are tentatively recognized, and four may occur in Mexico.

KEY TO MEXICAN SPECIES OF OXYBELIS

1. Head strongly tapering, rather broad posteriorly; usually 10 supralabials, the last 2 with nearly equally long labial borders; scales rather markedly keeled; green------------------------------------ fulgidus
   Head much less tapering, not much broader posteriorly than anteriorly; usually eight or nine supralabials, the last much the longest; scales not or feebly keeled; brownish------------------------------------ 2

2. Body relatively thick, head less attenuated; two preoculars; first pair of infralabials longer than anterior chin shields, or subequal; anterior third of body with black transverse markings (conspicuous when skin is stretched); no trace of lines on belly------------------------ potosiensis
   Body slenderer, head more attenuated; one preocular; first pair of infralabials shorter than anterior chin shields; no cross bands on body------ 3
3. Belly reddish in life, with a white line down middle and along ends of ventrals--- microphthalmus
   Belly gray or brown, not striped------------------------------ acuminatus

OXYBELIS ACUMINATUS (Wied)

Coluber acuminatus Wied, Abbildungen zur Naturgeschichte Brasilien, Lief. 14, 1822, pl. 1.

Oxybelis acuminatus Steindachner, Reise der österreichischen Fregatte *Novara* . . . , Reptilien, 1867, p. 72.—Boulenger, Catalogue of the snakes in the British Museum, vol. 3, 1896, pp. 192–193.—Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 15, 1897, pp. 838–840, pl. 65, fig. 4.—Taylor, Univ. Kansas Sci. Bull., vol. 27, 1941, p. 138, pl. 6, figs. 7, 8, 9.

Oxybelis fulgidus Crimmins (*nec* Daudin), Copeia, 1937, No. 4, p. 233.

Type.—Unknown.

Type locality.—Espíritu Santo River, Brazil.

Range.—Central Sonora and central Nuevo León southward on both coasts, including the Yucatán Peninsula, to Brazil, Bolivia, and Ecuador; María Madre Island, Tres Marías Islands (recorded in Mexico from the states of Chiapas, Colima, Guerrero, Jalisco, Michoacán, Nayarit, Nuevo León, Oaxaca, Puebla, Sinaloa, Sonora, Tabasco, Tamaulipas, Veracruz, and Yucatán).

OXYBELIS FULGIDUS (Daudin)

Coluber fulgidus Daudin, Histoire naturelle . . . des reptiles, vol. 6, An. 11, 1803, pp. 352–354, pl. 80.

Oxybelis fulgidus Duméril, Bibron, and Duméril, Erpétologie générale, vol. 7, pt. 2, 1854, pp. 817–819.—Boulenger, Catalogue of the snakes in the British Museum, vol. 3, 1896, pp. 191–192.—Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 15, 1897, pp. 840–842, pl. 65, fig. 5.—Taylor, Univ. Kansas Sci. Bull., vol. 27, 1941, p. 138, pl. 6, figs. 1, 2, 3.

Type.—Mus. Hist. Nat. Paris.

Type locality—Unknown; "Port-au-Prince, Saint Domingue."

Range.—Yucatán and the Isthmus of Tehuantepec southward through Central and most of South America, to northern Argentina (known in Mexico from the states of Yucatán, Oaxaca, and Chiapas).

*OXYBELIS MICROPHTHALMUS Barbour and Amaral [47]

Oxybelis microphthalmus Barbour and Amaral, Proc. New England Zool. Club, vol. 9, 1926, pp. 80–81.—Schmidt and Davis, Field book of snakes, 1941, pp. 266–268, fig. 88.

Type.—Mus. Comp. Zool. No. 22417.

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[47] Not yet recorded from Mexico, but almost certainly it occurs there; the type locality is about 4 miles north of the international boundary line.

Type locality.—Calabasas Canyon, Ariz.

Range.—Extreme southern central Arizona, and presumably adjacent Sonora.

OXYBELIS POTOSIENSIS Taylor

Oxybelis potosiensis TAYLOR, Univ. Kansas Sci. Bull., vol. 27, 1941, pp. 128–130, pl. 6, figs. 4–6.

Type.—E. H. Taylor–H. M. Smith Coll. No. 23614.

Type locality.—Thirty-eight km. northwest of Ciudad Maiz, San Luis Potosí.

Range.—Known only from the type locality.

Genus OXYRHOPUS Wagler [48]

Oxyrhopus WAGLER, Natürliches System der Amphibien, 1830, p. 185.

Genotype.—*Coluber petalarius* Linnaeus.

Range.—Central Veracruz into South America.

Species.—Total number of forms uncertain.[49]

OXYRHOPUS BAILEYI (Smith)

Oxyrhopus petolarius RUTHVEN (*nec* Linnaeus), Zool. Jahrb., vol. 32, 1912, p. 326.
Clelia baileyi SMITH, Proc. U. S. Nat. Mus., vol. 92, 1942, pp. 391–394.

Type.—U.S.N.M. No. 111261.

Type locality.—Potrero Viejo, Veracruz.

Range.—Probably eastern Mexico from central Veracruz into Guatemala. Known definitely only from the type locality and Cuatotolapam, *Veracruz.*[50]

Genus PHYLLORHYNCHUS Stejneger

Phyllorhynchus STEJNEGER, Proc. U. S. Nat. Mus., vol. 13, 1890, pp. 151–152.—KLAUBER, Bull. Zool. Soc. San Diego, No. 12, 1935, pp. 1–31, figs. 1–4, map; Trans. San Diego Soc. Nat. Hist., vol. 9, 1940, pp. 195–212, pl. 8, and map.

Genotype.—*Phyllorhynchus browni* Stejneger.

Range.—Southern California, southern Nevada, southern Arizona, western Sonora, and all Baja California.

Species.—Two species, one with two and the other with three subspecies, are known; extralimital is *P. browni lucidus* Klauber.

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[48] We follow Schmidt (as in Schmidt and Walker, Publ. Field Mus. Nat. Hist., zool. ser., vol. 24, 1943, p. 290; *et al.*) in the partitioning of the Boulengerian (Catalogue of the snakes in the British Museum, vol. 3, 1896, p. 99) genus *Oxyrhopus* (=*Pseudoboa* of many recent authors: *cf.* Amaral, Mem. Inst. Butantan, vol. 4, 1929, p. 205; type, *Pseudoboa coronata* Schneider), in which was included the *Oxyrhopus* (*sensu stricto*) and *Clelia* of this check list, and perhaps others extralimital.

[49] Dr. Joseph S. Bailey is expected to elucidate the taxonomy of this variable group of snakes. Until then any attempt to evaluate the many named forms is futile.

[50] Boulenger's record of *Oxyrhopus petolarius* from Atoyac, Guerrero (Catalogue of the snakes in the British Museum, vol. 3, 1896, p. 103) probably refers to the town known by the same name in the state of Veracruz.

KEY TO MEXICAN FORMS OF PHYLLORHYNCHUS[51]

1. Dorsal blotches on body less than 17 ---------- browni browni
   Dorsal blotches on body 17 or more ---------- 2
2. Males with 168 or more ventrals, females with 179 or more; body blotches usually distinctly narrower (along body) than interspaces ---------- decurtatus perkinsi
   Males with 167 or fewer ventrals, females with 178 or less; body blotches usually equal to or wider (along body) than interspaces ---------- 3
3. Dorsal blotches on body 34 or less; males without conspicuous keels on dorsal scales ---------- decurtatus decurtatus
   Dorsal blotches on body 35 or more; males with conspicuous keels on dorsal scales ---------- decurtatus nubilis

*PHYLLORHYNCHUS BROWNI BROWNI Stejneger[52]

Phyllorhynchus browni Stejneger, Proc. U. S. Nat. Mus., vol. 13, 1890, p. 52.—Klauber, Bull. San Diego Soc. Nat. Hist., No. 12, 1935, p. 17, fig. 3, map.

Phyllorhynchus browni browni Klauber, Trans. San Diego Soc. Nat. Hist., vol. 9, 1940, pp. 204–206, pl. 8, fig. 3, map.

Type.—U.S.N.M. No. 15719.

Type locality.—Tucson, Ariz.

Range.—"Southeastern Pinal County and eastern Pima County, west to Organ Pipe Cactus National Monument, Pima County, Arizona."

PHYLLORHYNCHUS DECURTATUS DECURTATUS (Cope)

Phimothyra decurtata Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 20, 1868 (1869), p. 310.

Phyllorhynchus decurtatus decurtatus Klauber, Bull. Zool. Soc. San Diego, No. 12, 1935, pp. 9–11, fig. 1; Trans. San Diego Soc. Nat Hist., vol. 9, 1940, pp. 206–207, 210, map.

Type.—Acad. Nat. Sci. Phila., No. 5489.

Type locality.—"The upper part of Lower California."

Range.—Central and southern Baja California.

PHYLLORHYNCHUS DECURTATUS NUBILIS Klauber

Phyllorhynchus decurtatus nubilis Klauber, Trans. San Diego Soc. Nat. Hist., vol. 9, 1940, pp. 197–201, pl. 8, fig. 1, and map.

Type.—L. M. Klauber (San Diego, Calif.) No. 32493.

Type locality.—Xavier (Weisner's Ranch), Pima County, Ariz.

Range.—Vicinity of Tucson, Pima County, Ariz.; west-central and northwestern Sonora (recorded in Mexico from Alamo Muerto, La Posa, and San Carlos Bay, *Sonora*).

*PHYLLORHYNCHUS DECURTATUS PERKINSI Klauber

Phyllorhynchus decurtatus perkinsi Klauber, Bull. Zool. Soc. San Diego, No. 12, 1935, pp. 11–16, fig. 2; Trans. San Diego Soc. Nat. Hist., vol. 9, 1940, pp. 207, 210.

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[51] From Klauber, *op. cit.*, 1940, pp. 209–210.

[52] Occurrence in Mexico almost certain, but no records are yet available.

Type.—L. M. Klauber (San Diego, Calif.) No. 23757.

Type locality.—Dry Lake, San Diego County, Calif.

Range.—Southern California, on the eastern or desert side of the mountains, from the Death Valley region south to northeastern Baja California; also central Clark County, Nev., southeast through Mohave, western Maricopa, and Yuma Counties, Ariz., to extreme northwestern Sonora.

Genus PITUOPHIS Holbrook

Pituophis Holbrook, North American herpetology, ed. 2, vol. 4, 1842, p. 7.—Stull, U. S. Nat. Mus. Bull. 175, 1940, pp. 1–221, figs. 1–84 (generic revision).

Epiglottophis Cope, Amer. Nat., vol. 25, 1891, p. 157 [type, *Spilotes deppei* (Duméril and Bibron)].

Genotype.—*Coluber melanoleucus* Daudin.

Range.—Southern British Columbia, Wisconsin, and New Jersey south through Mexico to central Guatemala.

Species.—About 13 or 14 species and subspecies exist in the genus. Eight are known from Mexico.

KEY TO MEXICAN FORMS OF PITUOPHIS[53]

1. Two prefrontals; two labials entering orbit ------ 2
   Four prefrontals; one labial entering orbit ------ 4
2. A pair of neck stripes; all blotches light centered, with well-defined, broad, black borders in adults ------ deppei lineaticollis
   No neck stripes; anterior and posterior (or only anterior) blotches solid black, only median blotches brown in adults; all spots brown in young; black borders not well-defined when present ------ 3
3. Anterior interspaces five scales in length or more; posterior and middle blotches brown, dark-edged, anterior blotches black, in adults; body spots 21 to 31 ------ deppei jani
   Anterior interspaces four scales in length or less; posterior blotches black, as well as anterior, middle blotches brown, in adults; body spots 30 to 44 ------ deppei deppei
4. Rostral at least slightly longer than broad; sum of ventrals and caudals added to number of dorsal spots on body and tail rarely exceeding 360 ------ 5
   Rostral at least slightly broader than long; sum of ventrals and caudals added to number of dorsal spots on body and tail rarely less than 360 ------ 6
5. Rostral slightly longer than broad; all spots on body of about equal darkness ------ catenifer affinis
   Rostral nearly twice as long as broad, prominent; anterior spots solid black, posterior and middle spots brown (dark-edged), in adults ------ catenifer sayi
6. Anterior dorsal spots black or reddish, central spots reddish, and posterior spots black; spots usually saddle-shaped and tending to fuse at the sides; anterior spots generally each five or more scales in length; ventrals 236 to 262 ------ vertebralis

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[53] Adapted from Stull, *op. cit.*, pp. 24–25.

Spots uniformly brown or black throughout series, ovoid or triangular in shape; each spot rarely more and usually less than four scales in length-- 7

7. Dorsal spots less than 90, or sum of caudals and ventrals less than 300; anterior dorsal spots not or only slightly fusing with alternating lateral spots and never fusing with one another; light scales of interspaces and sides anteriorly each with a small ventral black spot-- catenifer deserticola

Dorsal spots more than 90, or sum of ventrals and caudals more than 300; anterior dorsal spots generally fusing with the smaller alternating lateral spots, and often fusing with each other; dots in center of scales in interspaces and on sides lacking-------- catenifer annectens

PITUOPHIS CATENIFER AFFINIS Hallowell

Pityophis affinis HALLOWELL, Proc. Acad. Nat. Sci. Philadelphia, vol. 6, 1852, p. 181.

Pituophis sayi affinis STULL, U. S. Nat. Mus. Bull. 175, 1940, pp. 123–139.

Pituophis catenifer affinis KLAUBER, Copeia, 1941, No. 1, pp. 59–60.

Pituophis catenifer rutilis VAN DENBURGH, Proc. California Acad. Sci., ser. 4, vol. 10, 1920, pp. 24–27, pl. 2, fig. 2 (type locality, Tucson, Ariz.; type, Calif. Acad. Sci. No. 33869); Occ. Pap. California Acad. Sci., vol. 10, 1922, pp. 733–737, pl. 78.

Type.—Not known.

Type locality.—Near Zuni River, N. Mex.

Range.—Western and southern Chihuahua and eastern Sonora northward to southern Colorado, and west through central Arizona and southeast through southern Coahuila (recorded in Mexico from various localities in the state of Chihuahua, from 40 miles south of Sonoyta, Rush Lake, and Noría, *Sonora*, and several localities in Coahuila).

PITUOPHIS CATENIFER ANNECTENS Baird and Girard

Pituophis annectens BAIRD and GIRARD, Catalogue of North American reptiles, 1853, p. 72.

Pituophis catenifer annectens VAN DENBURGH and SLEVIN, Proc. California Acad. Sci., ser. 4, vol. 9, 1919, p. 216.—VAN DENBURGH, Occ. Pap. California Acad. Sci., vol. 10, 1922, pp. 719–724, pl. 76.—STULL, U. S. Nat. Mus. Bull. 175, 1940, pp. 185–203.

Type.—U.S.N.M. No. 1839, three cotypes.

Type locality.—San Diego, Calif.

Range.—Northwestern Baja California northward through southern California on the Pacific coast.

PITUOPHIS CATENIFER DESERTICOLA Stejneger

Pituophis catenifer deserticola STEJNEGER, North Amer. Fauna, No. 7, 1893, pp. 206–208.

Pituophis catenifer stejnegeri VAN DENBURGH, Proc. California Acad. Sci., ser. 4, vol. 10, 1920, pp. 21–24, pl. 21, fig. 1 (type locality, Fort Douglas, Salt Lake County, Utah; type, Calif. Acad. Sci. No. 14203); Occ. Pap. California Acad. Sci., vol. 10, 1922, pp. 729–737, pl. 77.—STULL, U. S. Nat. Mus. Bull. 175, 1940, pp. 166–184.

Type.—U.S.N.M. Nos. 18065–18070, No. 18070 lectotype.

Type locality.—Restricted to Beaverdam Mountains, Utah (included also five localities in California).

Range.—Northeastern Baja California northward through southeastern California to western Colorado and the eastern parts of Oregon and Washington.

PITUOPHIS CATENIFER SAYI (Schlegel)

Coluber sayi SCHLEGEL, Essai sur la physionomie des serpens, pt. 2, 1837, p. 157.

Pituophis sayi COOPER, United States and Pacific R. R. Explor. and Surv. 47th Parallel, vol. 12, book 2, pt. 3, No. 4, 1860, p. 300, pl. 22.—GUTHRIE, Iowa State Coll. Agr. Mech. Arts Bull. 239, 1926, pp. 159, 180, figs. 1–2, pls. 1, 2 (fig. 1), 4 (fig. 28).

Pituophis sayi sayi STULL, U. S. Nat. Mus. Bull. 175, 1940, pp. 91, 94–122, fig. 50, *a*.

Pituophis catenifer sayi KLAUBER, Copeia, 1941, No. 1, pp. 59–60.

Churchillia bellona BAIRD and GIRARD, Stansbury's Exploration of the valley of the Great Salt Lake of Utah, 1852, pp. 350–351 (type locality, Presidio del Norte, Chihuahua; type, U.S.N.M. No. 1519).

Pituophis mexicanus DUMÉRIL, BIBRON, and DUMÉRIL, Erpétologie générale, vol. 7, pt. 1, 1854, pp. 236–238, pl. 66 (type locality, Mexico; type in Mus. Hist. Nat. Paris).

Type.—Unknown.

Type locality.—Missouri.

Range.—Northeastern Chihuahua through the northern half of Coahuila and Nuevo León and most of Tamaulipas northward to Indiana, Wisconsin, and Alberta (recorded in Mexico from the states of Chihuahua, Coahuila, Nuevo León, and Tamaulipas).

PITUOPHIS DEPPEI DEPPEI (Duméril)

Elaphis Deppei DUMÉRIL, Mém. Acad. Inst. France, vol. 23, 1853, p. 453.

Pituophis deppei deppei STULL, Occ. Pap. Mus. Zool. Univ. Michigan, No. 250, 1932, pp. 1–2; U. S. Nat. Mus. Bull., 175, 1940, pp. 25–42, fig. 11.

Elaphis pleurostictus DUMÉRIL, Mém. Acad. Inst. France, vol. 23, 1853, p. 453; (type locality unknown ["Montevideo"]; type in Mus. Hist. Nat. Paris).

Pituophis Deppei pholidostictus JAN, Elenco sistematico degli Ofidi, 1863, p. 59 (type locality, Mexico; cotypes in Berlin and Leiden Mus.).

Type.—Leiden Mus.

Type locality.—Mexico.

Range.—Central Puebla through central San Luis Potosí to central Coahuila, westward to Jalisco and southern Chihuahua, eastward in the north to northern central Nuevo León (recorded in Mexico from the states of Aguascalientes, Chihuahua, Coahuila, Durango, Guanajuato, Jalisco, México, Michoacán, Nuevo León, Puebla, San Luis Potosí, and Veracruz, and Distrito Federal; reports from "Tehuantepec" seem definitely in error).

PITUOPHIS DEPPEI JANI (Cope)

Arizona jani COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860 (1861), p. 369.

Pituophis deppei jani STULL, Occ. Pap. Mus. Zool. Univ. Michigan, No. 250, 1932,

p. 2; U. S. Nat. Mus. Bull. 175, 1940, pp. 42–47, figs. 24, 25.—Smith, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1944, pp. 145–146.

Type.—U.S.N.M. No. 1522.

Type locality.—Buena Vista, Coahuila.

Range.—Northern Hidalgo to southeastern Coahuila, on the interior arid slopes of the Sierra Madre Oriental (known from Buena Vista and 30 miles west of La Rosa, *Coahuila;* Jacala and vicinity of Ixmiquilpan, *Hidalgo;* Galeana, *Nuevo León;* Miquihuana and Rancho Santa Ana, *Tamaulipas*).

PITUOPHIS DEPPEI LINEATICOLLIS (Cope)

Arizona lineaticollis Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861, pp. 300–301.

Pituophis lineaticollis Günther, Biologia Centrali-Americana, Rept., 1894, p. 124, pl. 47.—Stull, U. S. Nat. Mus. Bull. 175, 1940, pp. 47–52, fig. 26.

Pituophis deppei lineaticollis Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 460–461.

Type.—None known; originally in Acad. Nat. Sci. Philadelphia.

Type locality.—Jalapa, Veracruz.

Range.—The edge of the plateau in central Veracruz southward through central Oaxaca and Chiapas into central Guatemala; northward from Oaxaca to central Guerrero and Morelos (known from San Cristóbal, *Chiapas;* Acahuizotla, Chilpancingo, and Omilteme, *Guerrero;* Tres Cumbres, *Morelos;* San Pedro Quiechapa, *Oaxaca;* Jalapa and Acultzingo, *Veracruz*).

PITUOPHIS VERTEBRALIS (Blainville)

Coluber vertebralis Blainville, Nouv. Ann. Mus. Hist. Nat. Paris, vol. 4, 1835, p. 293, pl. 27, fig. 2.

Pituophis vertebralis Duméril, Bibron, and Duméril, Erpétologie générale, vol. 7, pt. 1, 1854, pp. 238–240.—Stull, U. S. Nat. Mus. Bull. 175, 1940, pp. 82–91, fig. 42.

Type.—Mus. Hist. Nat. Paris.

Type locality.—"California" (including Baja California).

Range.—Central and southern Baja California.

Genus PLIOCERCUS Cope

Pliocercus Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 253.—Smith, Proc. Biol. Soc. Washington, vol. 54, 1941, pp. 119–124; vol. 55, 1942, pp. 159–164 (summaries of Mexican species).

Elapochrus Peters, Monatsb. Akad. Wiss. Berlin, 1860, p. 294.[54]

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[54] Günther (Biologia Centrali-Americana, Rept., 1893, p. 106) says that *Elapochrus* was published on June 7, 1860, while *Pliocercus* did not appear until June 26, and he therefore places the latter as a synonym as *Elapochrus*. Dr. Dunn has advised, however, that Salvin (Proc. Zool. Soc. London, 1861, p. 228) states the name proposed by Cope preceded Peters's name by 2 days, and that Peters himself was satisfied that his name did not precede Cope's (Monatsb. Akad. Wiss. Berlin, 1869, p. 876). While evidence is not conclusive it does favor retention of *Pliocercus* and synonymizing *Elapochrus* with it.

Cosmiosophis Jan, Arch. Zool. Anat. Fis., vol 2, 1863, p. 289 (type, *Liophis tricinctus* Jan).

Genotype.—*Pliocercus elapoides* Cope.

Range.—Southern Tamaulipas and the Isthmus of Tehuantepec southward on both coasts into South America.

Species.—About 13 or 14 species and subspecies, of which 8 occur in Mexico.[55]

KEY TO MEXICAN FORMS OF PLIOCERCUS

1. Rings on body alternating red and black, all subequal in length (black rings a little the longer) ---- 2

   Yellow rings, as well as red and black, present on body; black rings or saddles in triads, or, if single, the spaces between them at least a half greater than their own length ---- 3

2. Black rings numerous, on body 25 to 27, on tail about 17; primary caudal black rings separated from each other by spaces equal to their own length; in addition, secondary, incomplete black rings (saddles) present in middle of red spaces on tail ---- aequalis

   Black rings less numerous, 14 on body; black tail rings twice as long as interspaces, which lack secondary black rings or saddles ---- bicolor

3. Black rings very long, covering 6 to 10 ventrals and 8 to 11 dorsals ---- andrewsi

   Black rings short, covering 2 to 5 scale length ---- elapoides ---- 4

4. Black rings single on body or, if triad, the outer rings considerably narrower than the yellow rings ---- 5

   Black rings triad on body and tail, the outer rings of each triad very distinct and as long as or longer than yellow rings; primary black rings complete (except nuchal), on body 9 to 10 in males, 9 to 15 in females; primary black rings on tail 5 to 8; infralabials usually 9, sometimes 8, rarely 10; ventrals 128 to 131 in males, 133 to 144 in females ---- elapoides elapoides

5. Most primary rings on body incomplete ventrally, 9 to 16; infralabials usually 10; ventrals 124 to 128 in males, 127 to 130 in females ---- elapoides laticollaris

   All primary black rings, except nuchal collar, complete ---- 6

6. Black rings on body 11 to 13 in males, 13 to 18 in females; black rings on tail 8 to 12; usually 9 infralabials; ventrals 127 to 128 in males, 128 to 134 in females ---- 7

   Black rings on body 5 to 10, on tail 4 to 6; usually 10 infralabials; ventrals 123 to 128 in males, 132 to 137 in females ---- elapoides diastemus

7. Snout uniformly black, except at lip; nuchal black collar not involving labials or parietals and covering eight scale lengths on nape; primary black rings longer, involving three or four ventrals and four or five dorsal scale lengths ---- elapoides celatus

   Snout mottled; nuchal black collar involving tips of parietals and posterior supralabials, and covering five scale lengths on nape; primary black rings shorter, involving two or three ventrals and three or four dorsal scale lengths-- elapoides schmidti

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[55] A record of *Urotheca elapoides* (Boulenger, Catalogue of the snakes in the British Museum, p. 183) for "Jalisco" cannot be allocated with any known form of the genus and probably represents an unnamed form. Boulenger's record for Atoyac (*loc cit.*), Guerrero, would seem to refer to the town by the same name in the state of Veracruz, and therefore pertain to *P. e. elapoides*.

*PLIOCERCUS AEQUALIS Salvin

Pliocercus aequalis SALVIN, Proc. Zool. Soc. London, 1861, pp. 227–228.—MÜLLER, Verh. Nat. Ges. Basel, vol. 6, 1878, p. 662, pl. 2, fig. A.

Liophis elapoides aequalis BOCOURT, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 10, 1886, pp. 637–638, pl. 41, fig. 7.

Elapochrus aequalis GÜNTHER, Biologia Centrali-Americana, Rept., 1893, pp. 106–107, pl. 36, fig. A (in color).

Type.—Brit. Mus. Nat. Hist.

Type locality.—San Gerónimo, Guatemala.

Range.—Atlantic foothills from Guatemala (Alta Verapaz) northwestward through Chiapas to the Isthmus of Tehuantepec (by inference; no definite locality records from Mexico, although Bocourt, *loc. cit.*, records a specimen from "Mexico").

PLIOCERCUS ANDREWSI Smith

Pliocercus andrewsi SMITH, Proc. Biol. Soc. Washington, vol. 55, 1942, pp. 162–164.

Type.—Field Mus. Nat. Hist. No. 36323.

Type locality.—Libre Unión, Yucatán.

Range.—Northern Yucatán (known only from the type locality and Yohdzonot, *Yucatán*).

PLIOCERCUS BICOLOR Smith

Pliocercus bicolor SMITH, Proc. Biol. Soc. Washington, vol. 54, 1941, pp. 123–124.

Type.—U.S.N.M. No. 25203.

Type locality.—Tuxpan, Veracruz.

Range.—Known only from the type locality and Teziutlán, *Puebla.*

PLIOCERCUS ELAPOIDES ELAPOIDES Cope

Pliocercus elapoides COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, pp. 253–254.

Pliocercus elapoides elapoides SMITH, Proc. Biol. Soc. Washington, vol. 54, 1941, pp. 119–120; vol. 55, 1942, p. 160.

Elapochrous deppei PETERS, Monatsb. Akad. Wiss. Berlin, 1860, pp. 294–295, fig. 2 (type locality, Mexico; type in Berlin Mus.).

Liophis tricinctus JAN, Arch. Zool. Anat. Fis., vol. 2, 1863, pp. 301–302, 328 (type locality, Mexico; cotypes in Milan, Vienna, and Copenhagen Mus.); Iconographie générale des ophidiens, livr. 18, 1866, pl. 4, figs. 4–6).

Type.—Acad. Nat. Sci. Phila. Nos. 3810–3, four cotypes.

Type locality.—Jalapa, Veracruz.

Range.—Central and southern Veracruz, extreme northeastern Puebla, central eastern Oaxaca, and extreme western Tabasco (known from numerous localities in the state of *Veracruz*, and from Teziutlán, *Puebla*, La Venta, *Tabasco*, La Raya and San Cristóbal [near Valle Nacional], *Oaxaca*).

PLIOCERCUS ELAPOIDES CELATUS Smith

Pliocercus elapoides celatus Smith, Journ. Washington Acad. Sci., vol. 33, 1943, pp. 344–345.

Type.—Mus. Vert. Zool. (Univ. Calif) No. 24689.

Type locality.—Ciudad Victoria, Tamaulipas.

Range.—Southern Tamaulipas and probably northern Veracruz and eastern San Luis Potosí (known only from the type locality).

PLIOCERCUS ELAPOIDES DIASTEMUS (Bocourt)

Liophis elapoides diastema Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 10, 1886, pp. 636–637, pl. 41, fig. 8.

Pliocercus elapoides diastemus Smith, Proc. Biol. Soc. Washington, vol. 54, 1941, pp. 120–121; vol. 55, 1942, p. 164.

Type.—Mus. Hist. Nat. Paris.

Type locality.—Plateau of Guatemala.

Range.—Pacific slopes of southern Chiapas and Guatemala (recorded in Mexico from Chicharras, the vicinity of Escuintla, and Monte Cristo, *Chiapas*, and Santa Efigenia, *Oaxaca*).

PLIOCERCUS ELAPOIDES LATICOLLARIS Smith

Liophis elapoides elapoides Bocourt (*nec* Cope), Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 10, 1886, pp. 635–636 (part), pl. 41, fig. 6.

Pliocercus elapoides laticollaris Smith, Proc. Biol. Soc. Washington, vol. 54, 1941, pp. 122–123; vol. 55, 1942, p. 160.

Pliocercus elapoides semicinctus Schmidt, Publ. Field Mus. Nat. Hist., zool. ser., vol. 22, 1941, pp. 502–503 (type locality, Double Falls, west of Stann Creek, British Honduras; type, I. T. Sanderson No. 805).

Type.—U. S. N. M. No. 110767.

Type locality.—Tenosique, Tabasco.

Range.—Atlantic slopes of the Isthmus of Tehuantepec east into British Honduras, excluding most of the Yucatán Peninsula (known in Mexico from Macuspana, Teapa, and Tenosique, *Tabasco*).

PLIOCERCUS ELAPOIDES SCHMIDTI Smith

Pliocercus elapoides schmidti Smith, Proc. Biol. Soc. Washington, vol. 55, 1942, pp. 161–162.

Type.—Mus. Comp. Zool. No. 26843.

Type locality.—Chichen Itzá, Yucatán.

Range.—Northern and central Yucatán (recorded only from the type locality and Tres Brazos and Encarnación, *Campeche*).

Genus PROCINURA Cope

Procinura Cope, Proc. Amer. Philos. Soc., vol. 18, 1879, p. 262.—Stickel, Proc. Biol. Soc. Washington, vol. 56, 1943, pp. 111, 128 (brief comments on characters and status).

Genotype.—*Procinura aemula* Cope.

Range.—Sierra Madre of southwestern Chihuahua.

Species.—One.

PROCINURA AEMULA Cope

Procinura aemula Cope, Proc. Amer. Philos. Soc., vol. 18, 1879, p. 262.

Scolecophis aemulus Cope, Ann. Rep. U. S. Nat. Mus., 1898 (1900), pp. 1109–1110, fig. 317.

Type.—Acad. Nat. Sci. Phila. No. 11641.

Type locality.—Batopilas, Chihuahua.

Range.—Southwestern Chihuahua; known only from the type locality.

Genus PSEUDOFICIMIA Bocourt

Pseudoficimia Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 9, 1883, p. 572.—Taylor and Smith, Univ. Kansas Sci. Bull., vol. 28, 1943, pp. 241–251, figs. 1–4, pl. 21.

Genotype.—*Pseudoficimia pulchra* Bocourt.

Range.—Western Mexico from southern Sonora to central Guerrero.

Species.—Two recorded.

KEY TO SPECIES OF PSEUDOFICIMIA

1. Hemipenial spines very small, uniform in size, grading into still smaller spines in the area of calyces; latter poorly formed, tending to coalesce; median yellow spots between dark blotches distinct, one to one and one-half scales wide ________________ frontalis

   Hemipenial spines relatively very large, 35 or less, not grading into very small spines in the area of the calyces; latter very distinct; median yellow spots between dark blotches nearly obsolete ____________ pulcherrima

PSEUDOFICIMIA FRONTALIS (Cope)

Toluca frontalis Cope, Proc. Acad. Nat Sci. Philadelphia, vol. 16, 1864, p. 167.

Conopsis frontalis Amaral, Mem. Inst. Butantan, vol. 4, 1929, p. 182.—Taylor and Smith, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 241–242, pl. 23, fig. 3.—Taylor, Univ. Kansas Sci. Bull., vol. 26, 1939 (1940), pp. 455–456 (part).

Pseudoficimia frontalis Günther, Biologia Centrali-Americana, Rept. Batr., 1893, p. 96.—Taylor and Smith, Univ. Kansas Sci. Bull., vol. 28, 1942, pp. 243–246, figs. 1 (map), 2, pl. 21, fig. 1.

Pseudoficimia pulchra Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 9, 1883, pp. 572–573, pl. 35, fig. 12 (type locality, Mexico; type in Mus. Hist. Nat. Paris).

Type.—U.S.N.M. Nos. 31424–5, two cotypes.

Type locality.—Colima.

Range.—Possibly southwestern Durango and southern Sinaloa southward to central Guerrero (known from the states of Jalisco, Colima, Sinaloa, Michoacán, Nayarit, and Guerrero; a record for Ventanas, *Durango*, may or may not belong here).

PSEUDOFICIMIA PULCHERRIMA Taylor and Smith

Pseudoficimia pulcherrima TAYLOR and SMITH, Univ. Kansas Sci. Bull., vol. 28, 1942, pp. 246–249, figs. 1 (map), 3, 4, pl. 21, fig. 2.

Type.—E. H. Taylor-H. M. Smith Coll. No. 5497.

Type locality.—Huajintlan, Guerrero.

Range.—The Balsas Basin from Michoacán to Morelos (known from Chilpancingo and Huajintlan, *Guerrero*, and Apatzingán, *Michoacán*).

Genus PSEUDOLEPTODEIRA Taylor

Pseudoleptodeira TAYLOR, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), p. 343.

Genotype.—*Hypsiglena latifasciata* Günther.

Range.—Central Michoacán to central southern Oaxaca.

Species.—Two.

KEY TO SPECIES OF PSEUDOLEPTODEIRA

1. Bands very numerous, about 50 on body; scales in 19 rows; one preocular ---------- discolor
   Bands very few, 8 on body; scales in 21 rows; two preoculars---- latifasciata

PSEUDOLEPTODEIRA DISCOLOR (Günther)

Leptodeira discolor GÜNTHER, Proc. Zool. Soc. London, 1860, pp. 317–318.

Hypsiglena discolor GÜNTHER, Biologia Centrali-Americana, Rept., 1894, pp. 137–138, pl. 49, fig. A.

Pseudoleptodeira discolor TAYLOR, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), p. 343.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Oaxaca.

Range.—Oaxaca, probably the southern central portion.

PSEUDOLEPTODEIRA LATIFASCIATA (Günther)

Hypsiglena latifasciata GÜNTHER, Biologia Centrali-Americana, Rept., 1894, p. 138, pl. 49, fig. B.

Pseudoleptodeira latifasciata TAYLOR, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 343–344, pl. 39, fig. 4.

Leptodeira guilleni BOULENGER, Proc. Zool. Soc. London, 1905, p. 247, pl. 7, fig. 2 (type locality, Río Balsas, Guerrero).

Type.—Brit. Mus. Nat. Hist.

Type locality.—Southern Mexico.

Range.—The Río Balsas basin in Guerrero, Michoacán, Morelos, and Puebla (recorded from Río Balsas and El Naranjo, *Guerrero;* El Sabino and Hacienda California, *Michoacán;* Huajintlán, Morelos; and Piaxtla, *Puebla*).

Genus PSEUSTES Fitzinger

Pseustes FITZINGER, Systema reptilium, 1843, p. 27.—BRONGERSMA, Zool. Meded., vol. 20, 1937, pp. 5–6.

Phrynonax Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 14, 1862, p. 348 (type, *Tropidodipsas lunulatus* Cope).—Amaral, Mem. Inst. Butantan, vol. 4, 1929, pp. 301–320, figs. 1–6 (a brief generic revision).

Genotype.—*Dipsas dieperinkii* Schlegel [=*Pseustes sulphureus sulphureus* (Wagler)].

Range.—From central Veracruz along the Atlantic coast through Central America and southward in South America to Bolivia and southern Brazil.

Species.—Two species, including seven subspecies, are recognized. Only two races (one species) occur in Mexico.

KEY TO MEXICAN FORMS OF PSEUSTES

(Adults only)

1. Each dorsal scale with a conspicuous light center; a narrow, longitudinal dark line on each side of middorsum ---------------- poecilonotus argus
   Light spots scattered; dim, oblique dark lines on sides of body; no paravertebral dark stripes -------------------- poecilonotus poecilonotus

PSEUSTES POECILONOTUS POECILONOTUS (Günther)

Spilotes poecilonotus Günther, Catalogue of the snakes in the British Museum, 1858, p. 100; Biologia Centrali-Americana, Rept. Batr., 1894, pp. 117–118, pl. 43.

Phrynonax poecilonotus poecilonotus Gaige, Carnegie Inst. Washington Publ. No. 457, 1936, p. 299.

Pseustes poecilonotus poecilonotus Schmidt, Publ. Field Mus. Nat. Hist., zool. ser., vol. 22, 1941, pp. 499–500.

Type.—Brit. Mus. Nat. Hist.

Type locality.—"Honduras." [56]

Range.—The Yucatán Peninsula, eastward to western Honduras (known in Mexico only from Chichen Itzá, *Yucatán*).

PSEUSTES POECILONOTUS ARGUS (Bocourt)

Spilotes argus Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 11, 1888, pp. 692–693, pl. 48, fig. 10.—Günther, Biologia Centrali-Americana, Rept., 1894, pp. 118–119, pl. 44.

Phrynonax guentheri Boulenger, Catalogue of the snakes in the British Museum, vol. 2, 1894, pp. 20–21 (type locality, Atoyac, Veracruz; type in Brit. Mus. Nat. Hist.).

Pseustes poecilonotus argus Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 462–463.

Type.—Mus. Roy. Hist. Nat. Brussels.

Type locality.—Mexico.

Range.—Atlantic slopes from central Veracruz southward into Guatemala, excluding the Yucatán Peninsula (known in Mexico from the states of Chiapas, Oaxaca, San Luis Potosí [Dugès], Tabasco, and Veracruz).

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[56] Schmidt (*op. cit.*) gives reasons to believe that the type locality actually is British Honduras, stated by error as Honduras.

Genus RHADINAEA Cope

Rhadinaea Cope, Proc. Acad. Nat. Sci. Philadelphia, 1863, p. 100.—Bailey, Occ. Pap. Mus. Zool. Univ. Michigan, No. 412, 1940, pp. 1–19, pls. 1–2 (revision of Mexican species).

Genotype.—*Taeniophis vermiculaticeps* Cope.

Range.—Southeastern United States and southern Nuevo León southward to South America.

Species.—Fifteen species and subspecies are recorded in Mexico, an indefinite number in Central and South America.

KEY TO MEXICAN FORMS OF RHADINAEA[57]

1. Three black longitudinal stripes separated sharply by narrow yellow lines on common border of rows 6 and 7; two lowermost rows and belly whitish ---------- aemula
Color not as described above ---------- 2

2. Seven upper labials; middorsal stripe gray, about five scales wide, not sharply defined on edges; a poorly defined lateral stripe usually present on row 4 (or 3 and 4); color of head extending two or three scale lengths behind parietals, usually bordered by a fine white collar ---------- laureata
Eight upper labials; color not as described above, sides dark or with a distinct lateral dark stripe ---------- 3

3. No light temporal stripe extending back from upper corner of eye; a light bar from eye to corner of mouth ---------- lachrymans
A light temporal stripe, often continuous with dorsolateral light stripes; no light bar from eye to corner of mouth ---------- 4

4. An isolated light spot on nape, separated by several scale lengths from dorsolateral and temporal light lines; ventrals less than 135 ---------- decorata
Color not as described, temporal stripes fused with or separate from dorsolateral light stripes (except sometimes in *montana*); ventrals more than 135 ---------- 5

5. Temporal stripe continuous with dorsolateral light stripe, or if not, extending to a line connecting posterior corners of mouth ---------- 6
Temporal stripe not continuous with dorsolateral, extending posteriorly no farther than secondary temporal ---------- 12

6. Lateral stripe broad, black-edged, involving fourth and adjacent half rows, *and*, edges of median and lateral dark stripes much darker ---------- vittata
Lateral stripe narrower, *or*, edges of median and lateral stripes not darker than middle of stripes ---------- 7

7. Ends of ventrals not black-spotted ---------- 15
Ends of ventrals black-spotted ---------- 8

8. Inner border of dorsolateral light lines on seventh scale row ---------- 9
Inner border of dorsolateral light line on sixth scale row ---------- 10

9. Lateral stripe on adjacent portions of third and fourth (mostly fourth) scale rows; dorsolateral dark stripe involving adjacent portions of seventh and eighth rows; dorsal stripe distinct, but spotted, discontinuous ---------- quinquelineata

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[57] Adapted from Bailey, *op. cit.*

Lateral stripe on adjacent portions of fourth and fifth rows; whole middorsal area dark, a black edge along middle of seventh row; middorsal stripe continuous, but indistinct -------------------- taeniata

10. Caudals few, 62 to 63 in known specimens; dorsolateral light stripes dotted posteriorly; entire ends of ventral scales black --------- forbesi

Caudals more numerous (known minimum 85); dorsolateral light stripes continuous; black spots at tips of ventrals smaller ------------------- 11

11. Lateral dark stripes more than one scale row wide, involving fourth and adjacent rows -- omiltemana

Lateral dark stripe narrow, involving no more than parts of two rows -- crassa

12. Inner edge of dorsolateral light stripe on sixth row anteriorly; sides below fourth row light, without dark stripes ----------------- montana

Inner edge of dorsolateral light stripe on seventh row anteriorly, *or*, sides dark or striped below fourth row -------------------------- 13

13. Dorsolateral light stripes confined to fifth and sixth scale rows, inner edge (best defined anteriorly) on sixth -------------------------- 14

Dorsolateral light stripes involving all of sixth and half of adjacent scale rows, inner edge on seventh -------------------- hesperia hesperia

14. Sides of body below lateral stripe uniformly pigmented, with no evidence of light or dark longitudinal stripes ------------------ hesperia baileyi

A distinct dark line on second scale row, sometimes others on first and third; a light line, well defined anteriorly, on adjacent borders of second and third scale rows -------------------- hesperia hesperioides

15. Secondary dark lines on sixth and seventh or common borders of seventh and eighth scale rows ------------------------------ montana

No secondary lines as described --------------------------------- gaigeae

RHADINAEA AEMULA Bailey

Rhadinaea aemula Bailey, Occ. Pap. Mus. Zool. Univ. Michigan, No. 412, 1940, pp. 4–5, pl. 1, fig. 3.

Type.—Mus. Comp. Zool. No. 42659.

Type locality.—Omilteme and Sierra de Burro, Guerrero.

Range.—Morelos, central Guerrero, and central Oaxaca.

RHADINAEA CRASSA Smith

Rhadinaea crassa Smith, Proc. Biol. Soc. Washington, vol. 55, 1942, pp. 190–191, figs. 4, 5; Proc. U. S. Nat. Mus., vol. 93, 1943, p. 463, pl. 32, fig. 1.

Type.—E. H. Taylor–H. M. Smith Coll. No. 5526.

Type locality—Durango, Hidalgo.

Range.—Central Hidalgo to southeastern San Luis Potosí, known from Durango, La Placita, and Barranca de los Horcones, *Hidalgo;* and Ciudad Maiz, *San Luis Potosí*).

RHADINAEA DECORATA (Günther)

Coronella decorata Günther, Catalogue of the snakes in the British Museum, 1858, pp. 35–36.

Rhadinaea decorata Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 15, 1863, p. 101.—Dunn, Notulae Naturae, No. 108, 1942, p. 6.—Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 463–464, pl. 32, fig. 3.

Rhadinaea decorata decorata Cope, Ann. Rept. U. S. Nat. Mus., 1898 (1900), p. 758.—Bailey, Occ. Pap. Mus. Zool. Univ. Michigan, No. 412, 1940, pp. 7–8, pl. 2, fig. 5.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Mexico.

Range.—Central Veracruz and northeastern Puebla to Darién; western Chiapas near the Isthmus of Tehuantepec (recorded in Mexico from the states of Chiapas, Oaxaca, Puebla, and Veracruz).

RHADINAEA FORBESI Smith

Rhadinaea forbesi Smith, Proc. Biol. Soc. Washington, vol. 55, 1942, pp. 188–189, fig. 3.

Type.—U.S.N.M. No. 110365.

Type locality.—Tequeyutepec, 7 miles west of Jalapa, Veracruz.

Range.—Known only from the type locality.

RHADINAEA GAIGEAE Bailey

Rhadinaea gaigeae Bailey, Copeia, 1937, No. 2, pp. 118–119; Occ. Pap. Mus. Zool. Univ. Michigan, No. 412, 1940, pp. 12–13, pl. 1, fig. 2.

Type.—Mus. Comp. Zool. No. 24983.

Type locality.—Alvarez, San Luis Potosí.

Range.—Southern central San Luis Potosí.

RHADINAEA HESPERIA HESPERIA Bailey

Rhadinaea hesperia Bailey, Occ. Pap. Mus. Zool. Univ. Michigan, No. 412, 1940, pp. 8–10, pl. 2, fig. 3.

Rhadinaea hesperia hesperia Smith, Proc. Biol. Soc. Washington, vol. 55, 1942, pp. 185–192.

Type.—Mus. Comp. Zool. No. 42661.

Type locality.—Omilteme and Sierra de Burro, Guerrero.

Range.—Edge of the central Mexican Plateau from central Michoacán to Morelos; also the Sierra Madre del Sur, central Guerrero (known definitely from the states of *Guerrero*, *Michoacán*, and *Morelos*).

RHADINAEA HESPERIA BAILEYI Smith

Rhadinaea hesperia baileyi Smith, Proc. Biol. Soc. Washington, vol. 55, 1942, pp. 187–188, fig. 2.

Type.—E. H. Taylor-H. M. Smith Coll. No. 5444.

Type locality.—El Treinte, Guerrero.

Range.—Coastal regions of Guerrero; known definitely only from the type locality.

RHADINAEA HESPERIA HESPERIOIDES Smith

Rhadinaea hesperia hesperioides Smith, Proc. Biol. Soc. Washington, vol. 42, 1942, pp. 186–187, fig. 1.

Type.—U.S.N.M. No. 67373.

Type locality.—Magdalena, Jalisco.

Range.—Edge of the central Mexican Plateau from Jalisco to southern Sinaloa (known from the type locality and from Quesería, *Colima;* Guadalajara, *Jalisco;* and Plomosas, *Sinaloa*).

RHADINAEA LACHRYMANS (Cope)

Lygophis lachrymans Cope, Proc. Amer. Philos. Soc., vol. 11, 1869, p. 154.

Rhadinaea lachrymans Cope, Journ. Acad. Nat. Sci. Philadelphia, ser. 2, vol. 8, 1876, p. 140.—Bailey, Occ. Pap. Mus. Zool. Univ. Michigan, No. 412, 1940, pp. 6–7, pl. 1, fig. 4.

Type.—Acad. Nat. Sci. Phila. No. 5539.

Type locality.—Uncertain.

Range.—Mountains of extreme southern Chiapas and adjacent Guatemala (known in Mexico from several localities in southern Chiapas).

RHADINAEA LAUREATA (Günther)

Dromicus laureatus Günther, Ann. Mag. Nat. Hist., ser. 4, vol. 1, 1868, p. 419, pl. 19, fig. E.

Rhadinaea laureata Boulenger, Catalogue of the snakes in the British Museum, vol. 2, 1894, p. 179.—Bailey, Occ. Pap. Mus. Zool. Univ. Michigan, No. 412, 1940, pp. 5–6, pl. 1, fig. 5.—Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 465, pl. 32, fig. 4.

Erythrolamprus grammophrys Dugès, La Naturaleza, ser. 2, vol. 1, 1890, pp. 402–403, pl. 27, fig. 13 (type locality, Tengohecho, Michoacán; type in Museo Alfredo Dugès, Univ. Guanajuato, Mexico).

Type.—Brit. Mus. Nat. Hist.

Type locality.—Mexico (City).

Range.—In mountains from Distrito Federal through Michoacán to central Durango (recorded from Distrito Federal and the states of Durango, Jalisco, Michoacán, and Morelos).

RHADINAEA MONTANA Smith

Rhadinaea quinquelineata Bailey (*nec* Cope), Occ. Pap. Mus. Zool. Univ. Michigan, No. 412, 1940, pp. 11–12 (part), pl. 1, fig. 1 (body pattern of *montana* paratype).

Rhadinaea montana Smith, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1944, pp. 146–148.

Type.—Field Mus. Nat. Hist. No. 30826.

Type locality.—Ojo de Agua, near Galeana, Nuevo León.

Range.—Known at present only from southern Nuevo León (the type locality and Monterrey).

RHADINAEA OMILTEMANA (Günther)

Dromicus omiltemanus Günther, Biologia Centrali-Americana, Rept., 1894, p. 113, pl. 40, fig. B.

Rhadinaea omiltemana Bailey, Occ. Pap. Mus. Zool. Univ. Michigan, No. 412, 1940, pp. 13–14, pl. 2, fig. 2.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Omilteme, Guerrero.

Range.—Sierra Madre del Sur, central Guerrero.

RHADINAEA QUINQUELINEATA Cope

Rhadinaea quinquelineata Cope, Proc. Amer. Philos. Soc., vol. 23, 1886, p. 277.—Smith, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1944, pp. 147–148, fig. 19 (body pattern).

Type.—U.S.N.M. No. 31350.

Type locality.—Teziutlán, Puebla.

Range.—Hidalgo and northern Puebla, in mountains at the edge of the plateau (known only from the type locality and Zacualtipán, *Hidalgo*).

RHADINAEA TAENIATA (Peters)

Dromicus taeniatus Peters, Monatsb. Akad. Wiss. Berlin, 1863, pp. 275–277.

Rhadinaea taeniata Bailey, Occ. Pap. Mus. Zool. Univ. Michigan, No. 412, 1940, pp. 14–15, pl. 2, fig. 4.

Type.—Berlin Mus., two cotypes.

Type locality.—Mexico.

Range.—Mountains of western Jalisco (the only definite localities known are La Cumbre de los Arrastrados, *Jalisco*, and Tancítaro, *Michoacán*).

RHADINAEA VITTATA (Jan)[58]

Enicognathus vittatus Jan, Arch. Zool. Anat. Fis., vol. 2, 1863, pp. 271–272, 327 (part; type locality, Mexico; type in Paris Mus.; a secondary homonym of *Liophis vittatus* [Hallowell, 1845] Cope, 1859, by virtue of Amaral's (1929) reference of Jan's name to *Liophis*); Iconographie générale des ophidiens, livr. 16, 1866, pl. 2, figs. 2–3 (restricted to fig. 3).

Rhadinaea fulvivittis Cope, Journ. Acad. Nat. Sci. Philadelphia, ser. 2, vol. 8, 1876, pp. 139–140 (type locality, "Alpine region, Orizaba, Veracruz"; type, U.S.N.M. No. 7075).—Bailey, Occ. Pap. Mus. Zool. Univ. Michigan, No. 412, 1940, pp. 10–11, pl. 2, fig. 1.—Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 464, pl. 32, fig. 2.

Type.—Paris Mus.

Type locality.—Mexico.

Range.—Eastern mountains from central Veracruz to central Oaxaca (recorded only from the states of Oaxaca and Veracruz).

Genus RHADINELLA Smith

Rhadinella Smith, Copeia, 1941, No. 1, p. 7.

Genotype.—*Rhadinella schistosa* Smith.

Range.—Foothills of central Veracruz.

Species.—One.

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[58] *Rhadinaea fulvivittis* Cope to those who do not agree with suppression of secondary homonyms.

RHADINELLA SCHISTOSA Smith

Rhadinella schistosa SMITH, Copeia, 1941, No. 1, pp. 7–10, fig. 1 (head and neck only); Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 465–466.

Type.—E. H. Taylor-H. M. Smith Coll. No. 23580.

Type locality.—Cuautlapan, Veracruz.

Range.—Central Veracruz; known only from the type locality.

Genus RHINOCHEILUS Baird and Girard

Rhinocheilus BAIRD and GIRARD, Catalogue of North American reptiles, 1853, pp. 120–121.—KLAUBER, Trans. San Diego Soc. Nat. Hist., vol. 9, 1941, pp. 289–330, pls. 12–13, map (generic revision).

Genotype.—*Rhinocheilus lecontei* Baird and Girard.

Range.—Southwestern Idaho to northern Baja California, east through central Texas and western Kansas, south to southern Coahuila and Chihuahua, and along the Pacific coast to Jalisco.

Species.—Four subspecies are known, all occurring in Mexico.

KEY TO FORMS OF RHINOCHEILUS[59]

1. Dorsal blotches on body usually 17 or less; longitudinal extent of blotches (at midbody) 3 or more times the interspaces.............. antonii antonii
   Dorsal blotches on body usually more than 17; longitudinal extent of dorsal blotches at midbody less than 3 times the interspaces.......... 2
2. Snout sharper and with a distinct upward tilt toward point; rostral raised appreciably above nasals and internasals.............. lecontei tessellatus
   Snout blunter and without a distinct upward tilt toward point; rostral raised only slightly or not at all above nasals and internasals.......... 3
3. Black dorsal blotches on body usually 25 or more; lateral areas between primary dark blotches heavily mottled or spotted with black (may be faint in juveniles); red usually present in interspaces; ground color cream.. lecontei lecontei
   Black dorsal blotches on body usually less than 25; lateral areas between primary dark blotches immaculate, faintly punctated, or marked with a single series of secondary spots at the edges of ventrals; red usually absent in interspaces; ground color white.................. antonii clarus

RHINOCHEILUS ANTONII ANTONII Dugès

Rhinocheilus antonii DUGÈS, Proc. Amer. Philos. Soc., vol. 23, 1886, pp. 290–291, figs. 1–5.

Rhinocheilus lecontei antonii KLAUBER, Trans. San Diego Soc. Nat. Hist., vol. 9, 1941, pp. 314–318, map p. 330.

Rhinocheilus antonii antonii SMITH, Amer. Midl. Nat., vol. 28, 1942, pp. 201–203.

Type.—Mus. Alfredo Dugès, Univ. Guanajuato, Mexico.

Type locality.—San Blas, Nayarit.

Range.—Pacific coast, Jalisco northward to northern Sonora (recorded from the states of Jalisco, Nayarit, Sinaloa, and Sonora).

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[59] From Klauber, *op. cit.*, p. 326.

RHINOCHEILUS ANTONII CLARUS Klauber

Rhinocheilus lecontei clarus KLAUBER, Trans. San Diego Soc. Nat. Hist., vol. 9, 1941, pp. 308–314, pl. 13, figs. 1, 2, map p. 330.

Rhinocheilus antonii clarus SMITH, Amer. Midl. Nat., vol. 28, 1942, pp. 201–203.

Type.—L. M. Klauber Coll. (San Diego, Calif.) No. 31440.

Type locality.—Borego Valley, 2 miles north of The Narrows, San Diego County, Calif.

Range.—"The Borego and Coachella valleys in southern California, with scattered occurrences elsewhere in the Colorado, Mohave, and Yuma deserts of southern California, extreme southern Nevada, and western Arizona." Also presumably in extreme northern Sonora, perhaps also in extreme northern Baja California. Intergrades with *R. a. antonii* in northern Sonora.

RHINOCHEILUS LECONTEI LECONTEI Baird and Girard

Rhinocheilus lecontei BAIRD and GIRARD, Catalogue of North American reptiles, 1853, pp. 120–121.—VAN DENBURGH, Occ. Pap. California Acad. Sci., vol. 10, 1922, pp. 774–777, pl. 84.

Rhinocheilus lecontei lecontei KLAUBER, Trans. San Diego Soc. Nat Hist., vol. 9, 1941, pp. 296–302, pl. 12, fig. 1, map p. 330.

Type.—Originally Mus. Comp. Zool. No. 137.

Type locality.—San Diego, Calif.

Range.—"California from Mendocino and Lassen counties south; northern Lower California, southwestern Idaho, Nevada, southwestern Utah, southern and western Arizona."

RHINOCHEILUS LECONTEI TESSELLATUS Garman

Rhinocheilus lecontei tessellatus GARMAN, Mem. Mus. Comp. Zool., vol. 8, 1883, pp. 74, 159.—KLAUBER, Trans. San Diego Soc. Nat. Hist., vol. 9, 1941, pp. 302–308, pl. 12, fig. 2, pl. 13, fig. 3.

Type.—Mus. Comp. Zool. No. 4577.

Type locality.—Monclova, Coahuila.

Range.—"Central and southern New Mexico, southwestern Kansas, western Oklahoma, Texas west of the 97th [meridian], Coahuila and northern Nuevo Leon. Probably intergrades with *lecontei* along the southern border between New Mexico and Arizona" (recorded in Mexico only from Nuevo León and Coahuila, although its occurrence in Tamaulipas and Chihuahua is to be expected).

Genus SALVADORA Baird and Girard

Salvadora BAIRD and GIRARD, Catalogue of North American reptiles, 1853, pp. 104–105.—SMITH, Smithsonian Misc. Coll., vol 99, No. 20, 1941, pp. 1–12, figs. 1–7.

Phimothyra COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 566 (substitute name for *Salvadora* [a Linnaean plant name]; type, *S. grahamiae* Baird and Girard).

Genotype.—*Salvadora grahamiae* Baird and Girard.

Range.—Southern United States from central Texas to southern California, south through central and western Mexico to Guatemala.

Species.—Twelve species and subspecies are recognized, all occurring in Mexico.

KEY TO FORMS OF SALVADORA

1. Lateral dark stripe involving first row of dorsal scales 2
   Lateral stripe not involving first row of dorsal scales on any part of body 3
2. Stripes continued to occiput; ventrals immaculate, 196 to 208 in number .... lemniscata
   Stripes interrupted anteriorly, cross bars on neck; spots on outer margins of anterior ventrals; ventrals 182 to 192 in number .... mexicana
3. Only one pair of dark stripes on body, these not involving third row of scales on any part of body 4
   Stripes involving third row of scales 5
4. Antepenultimate supralabial separated from postoculars; maxillary teeth 11–3; stripes involving third and fourth rows of scales, bifurcating posteriorly (dorsolateral and lateral), but not well defined 5
   Antepenultimate supralabial usually in contact with postoculars; maxillary teeth usually 10–3; only dorsolateral stripes present, well defined, not involving either third or fourth scale rows anteriorly .... grahamiae
5. Dorsolateral dark stripes terminating on nape and not passing through temporal region 6
   Dorsolateral dark stripes diverging on neck and passing through temporal region to eye 8
6. Lateral dark stripe fused with dorsolateral dark stripe on anterior half or third of body; rostral much enlarged; usually sixth labial entering orbit .... hexalepis virgultea
   Lateral dark stripe separate from dorsolateral dark stripe throughout length of body, except sometimes on neck; rostral little enlarged; two labials entering orbit 7
7. Loreals 2; rostral with slightly free edges, anterior margin (seen from above) nearly straight; maxillary teeth 11–3; 9 supralabials .... bogerti
   Loreal one; edges of rostral not free, its anterior margin (seen from above) distinctly convex; maxillary teeth usually 9–3; usually eight supralabials .... bairdii
8. Lateral dark stripe fusing with dorsolateral dark stripes on neck 9
   Lateral dark stripe distinct and separate from dorsolateral throughout its length, generally disappearing free on neck, rarely discernible to temporal region .... lineata
9. Rostral strongly enlarged, with prominently free edges; nine supralabials or more; antepenultimate labial generally in contact with postoculars 11
   Rostral moderately enlarged, with somewhat free edges; eight supralabials; antepenultimate labial usually separated from postoculars 10
10. Anterior section of nasal in contact with second supralabial; ventrals 182 or less .... intermedia intermedia
    Anterior section of nasal separated from second supralabial; ventrals 190 in single specimen .... intermedia richardi
11. A distinct barred effect in pattern; lateral stripe fused with dorsolateral over all of neck .... hexalepis hexalepis

Pattern not barred, the stripes uninterrupted in intensity; lateral stripes fused with dorsolateral over anterior half or third of neck---- 12
12. Ventrals 195 or less-------------------------------- **hexalepis deserticola**
Ventrals 198 to 205 (in three specimens)----------------- **hexalepis celeris**

SALVADORA BAIRDII Jan

Salvadora Bairdii Jan, Iconographie générale des ophidiens, livr. 2, 1860, pl. 3, fig. 2.—Smith, Smithsonian Misc. Coll., vol. 99, No. 20, 1941, p. 12, fig. 3; Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 466–467.

Type.—Milan Mus. and Westphal Coll.

Type locality.—Mexico.

Range.—Veracruz and central Hidalgo west to western Jalisco (known from Distrito Federal and the states of Guanajuato, Hidalgo, Jalisco, México, Michoacán, Nayarit [Mocquard], Puebla, Veracruz, and Zacatecas).

SALVADORA BOGERTI Smith

Salvadora bogerti Smith, Smithsonian Misc. Coll., vol. 99, No. 20, 1941, pp. 2–6, figs. 1–2.

Type.—U.S.N.M. No. 30296.

Type locality.—"Tehuantepec"; exact locality uncertain.

Range.—Uncertain; possibly central Oaxaca.

SALVADORA GRAHAMIAE Baird and Girard

Salvadora grahamiae Baird and Girard, Catalogue of North American reptiles, 1853, pp. 104–105.—Schmidt, Publ. Field Mus. Nat. Hist., zool. ser., vol. 24, 1940, p. 144, fig. 13.

Salvadora grahamiae grahamiae Bogert, Bull. Southern California Acad. Sci., vol. 34, pt. 1, 1935, p. 88.

Type.—U.S.N.M. No. 2081.

Type locality.—Sonora.

Range.—Northern Coahuila along the Rio Grande, westward to central Sonora and northward into Arizona, southern New Mexico, and western Texas along the Rio Grande (known in Mexico from the states of Chihuahua, Coahuila, and Sonora).

SALVADORA HEXALEPIS HEXALEPIS (Cope)

Phimothyra hexalepis Cope, Proc. Acad. Nat. Philadelphia, vol. 18, 1866 (1867), p. 304.

Salvadora hexalepis hexalepis Schmidt, Publ. Field Mus. Nat. Hist., zool. ser., vol. 24, 1940, p. 146.—Smith, Smithsonian Misc. Coll., vol. 99, No. 20, 1941, p. 12, fig. 7.

Type.—U.S.N.M. No. 7894.

Type locality.—Fort Whipple, Ariz.

Range.—Tiburón Island, Sonora (except extreme southern part), northward through western Arizona to southwestern Utah, southern and western Nevada, and west to eastern California and most of Baja

California (except extreme northwestern part) (recorded only from the states of Sonora and Baja California, in Mexico).

SALVADORA HEXALEPIS CELERIS Smith

Salvadora hexalepis celeris SMITH, Smithsonian Misc. Coll., vol. 99, No. 20, 1941, pp. 9–11.—SMITH and MITTLEMAN, Trans. Kansas Acad. Sci., vol. 46, 1943, p. 248.

Type.—U.S.N.M. No. 40043.

Type locality.—San Blas, Sinaloa.

Range.—Northern Sinaloa, probably southern Sonora, and perhaps western Chihuahua (recorded only from Sinaloa and doubtfully from Chihuahua).

SALVADORA HEXALEPIS DESERTICOLA Schmidt

Salvadora hexalepis deserticola SCHMIDT, Publ. Field Mus. Nat. Hist., zool. ser., vol. 24, 1940, p. 146, fig. 14.—SMITH, Smithsonian Misc. Coll., vol. 99, No. 20, 1941, p. 12, fig. 6.

Type.—Field Mus. Nat. Hist. No. 26615.

Type locality.—Government Spring, near Chisos Mountains, Brewster County, Tex.

Range.—Most of Chihuahua, extreme northeastern Coahuila, and probably extreme eastern Sonora and northwestern Coahuila; northward in the United States to western Texas, southern New Mexico, and southeastern Arizona.

SALVADORA HEXALEPIS VIRGULTEA Bogert

Salvadora grahamiae virgultea BOGERT, Bull. Southern California Acad. Sci., vol. 34, 1935, p. 89.

Salvadora hexalepis virgultea SCHMIDT, Publ. Field Mus. Nat. Hist., zool. ser., vol. 24, 1940, p. 148.

Type.—San Diego Soc. Nat. Hist. No. 12025.

Type locality.—Deerhorn Flat, San Diego County, Calif.

Range.—Foothills of southwestern California and northwestern Baja California.

SALVADORA INTERMEDIA INTERMEDIA Hartweg

Salvadora intermedia HARTWEG, Copeia, 1940, No. 4, pp. 256–259.

Salvadora intermedia intermedia SMITH, Smithsonian Misc. Coll., vol. 99, No. 20, 1941, p. 7.

Type.—Univ. Mich. Mus. Zool. No. 85733.

Type locality.—Chilpancingo, Guerrero.

Range.—Sierra Madre del Sur, central Guerrero.

SALVADORA INTERMEDIA RICHARDI Smith

Salvadora intermedia richardi SMITH, Smithsonian Misc. Coll., vol. 99, No. 20, 1941, pp. 6–9, fig. 5.

Type.—E. H. Taylor-H. M. Smith Coll. No. 23470.

Type locality.—One mile north of Tehuacán, Puebla.

Range.—Known only from the type locality; perhaps the upper Río Balsas Basin.

SALVADORA LEMNISCATA (Cope)

Drymobius (*Eudryas*) *pulcherrimus* (*nec* Cope) BOCOURT, Mission scientifique au Mexique dans l'Amérique centrale, Rept., livr. 12, 1890, pp. 725–726, pl. 49, fig. 3.

Salvadora pulcherrima SMITH, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 229–231, pl. 22.

Drymobius lemniscatus COPE, Trans. Amer. Philos. Soc., vol. 18, 1895 (1896), p. 203.

Salvadora lemniscata BOGERT, Copeia, 1939, No. 3, p. 142, fig. 1.—SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 468–469.

Type.—Mus. Hist. Nat. Paris.

Type locality.—Western Mexico.

Range.—Central Guerrero near the coast, southeastward across the Isthmus of Tehuantepec and through central and Pacific Chiapas to Guatemala (recorded in Mexico from the states of Chiapas, Guerrero [Acapulco], and Oaxaca).

SALVADORA LINEATA Schmidt

Salvadora lineata SCHMIDT, Publ. Field Mus. Nat. Hist., zool. ser., vol. 24, 1940, pp. 148–150, fig. 15.

Salvadora grahamiae lineata HARTWEG, Copeia, 1940, No. 4, p. 259.—SMITH, Smithsonian Misc. Coll., vol. 99, No. 20, 1941, p. 12, fig. 4.

Type.—Field Mus. Nat. Hist. No. 28605.

Type locality.—Kingsville, Kleburg County, Tex.

Range.—Southern Nuevo León west to central Durango, northward to northern central Texas (known in Mexico from the states of Coahuila, Durango, Hidalgo, Nuevo León, San Luis Potosí, and Tamaulipas).

SALVADORA MEXICANA (Duméril, Bibron, and Duméril)

Zamenis mexicanus DUMÉRIL, BIBRON, and DUMÉRIL, Erpétologie générale, vol. 7, pt. 1, 1854, pp. 695–696.—BOCOURT, Mission scientifique au Mexique et dans l'Amérique Centrale, Rept., livr. 11, 1888, p. 664, pl. 46, fig. 5.

Salvadora mexicana GÜNTHER, Ann. Mag. Nat. Hist., ser. 3, vol. 12, 1863, p. 349.—BOGERT, Copeia, 1939, No. 3, pp. 144–145.

Type.—Mus. Hist. Nat. Paris.

Type locality.—Cape Corrientes, Jalisco.

Range.—Nayarit and probably southern Sinaloa southward on Pacific slopes to central Guerrero and probably western Oaxaca (recorded from the states of Colima, Guerrero, Jalisco, Michoacán, Morelos, Nayarit, and Puebla; a record from Guanajuato [Bocourt] seems in error).

Genus SIBON Fitzinger[60]

Sibon FITZINGER, Neue Classification der Reptilien, 1826, p. 31.

Sibynon FITZINGER, Systema reptilium, 1843, p. 27 (type, *Dipsas nebulata* Schlegel).

Petalognathus DUMÉRIL, BIBRON, and DUMÉRIL, Erpétologie générale, vol. 7, 1854, p. 463 (type, *Coluber nebulatus* Linnaeus).

Genotype.—*Coluber nebulatus* Linnaeus.

Range.—Central Guerrero and central Veracruz southward on both coasts to northern South America.

Species.—One.

SIBON NEBULATUS (Linnaeus)

Coluber sibon LINNAEUS, Systema naturae, ed. 10, vol. 1, 1758, p. 222 (type locality, Africa [in error?]; location of type unknown).[61]

Sibon sibon AMARAL, Mem. Inst. Butantan, vol. 4, 1929, p. 194.

Coluber nebulatus LINNAEUS, Systema naturae, ed. 10, vol. 1, 1758, p. 222.[61]

Petalognathus nebulatus MOCQUARD, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 16, 1908, pp. 881–882, pl. 72, fig. 3.

Sibon nebulatus TAYLOR, Univ. Kansas Sci. Bull., vol. 26, 1939 (1940), pp. 473–474.

Type.—Roy. Mus. Stockholm.

Type locality.—Africa (in error).

Range.—Central Guerrero and central Veracruz southward on both coasts, including Yucatán, to northern South America (recorded in Mexico from the states of Campeche, Chiapas, Guerrero, Oaxaca, Tabasco, Veracruz, and Yucatán).

Genus SONORA Baird and Girard

Sonora BAIRD and GIRARD, Catalogue of North American reptiles, 1853, p. 117.—STICKEL, Proc. Biol. Soc. Washington, vol. 56, 1943, pp. 109–128 (review of Mexican forms).

Genotype.—*Sonora semiannulata* Baird and Girard.

Range.—Southern portion of the western half of the United States north to Idaho, south through mainland Mexico to Guerrero and perhaps Oaxaca, and through the northern two-thirds of Baja California.

Species.—In all, 12 species and subspecies, certainly 10 and probably 11 occurring in Mexico.

KEY TO MEXICAN FORMS OF SONORA[62]

1. Pattern either without cross bands or with one to many black cross bands on a variously pigmented ground color, but pattern neither based on nor including three different colors of cross bands; nasal usually entire, seldom sutured; color pattern without sexual variation; scale rows various (*semiannulata* group) ____________________ 4

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[60] See footnote for *Dipsas*, p. 49.

[61] If *sibon* and *nebulatus* are conspecific, since page or position priority has no standing, the name chosen by the first reviser stands. As shown by Boulenger's synonymy (Catalogue of the snakes in the British Museum, vol. 2, 1894, p. 293), *nebulatus* has long been used instead of *sibon*, granting their synonymy.

Pattern tricolor, with black, grayish, and reddish cross bands on body or tail or both, or the reddish may cover most of body and tail, in which case black and grayish bands persist only on nuchal region; nasal plates sutured below nostril in most specimens, but frequently entire; color pattern with marked sexual variations; scale rows 15–15 (*michoacanensis* group) ---------- 2

2. Tail reddish, unbanded ---------- michoacanensis michoacanensis

Tail with triads of black, grayish, and reddish bands ---------- 3

3. Unsplit black bands much longer (anteroposteriorly) than grayish bands, or else all black bands split by red; at least some of anterior body bands always split by red ---------- michoacanensis mutabilis

Unsplit black bands approximately equal in length to grayish bands; in single known specimen (female) none of body bands split by red ---------- aequalis

4. Anterior scale rows 15, rarely 14 or 16; temporals generally 1–2 (1–2 or higher on both sides in 96 percent of specimens) ---------- 5

Scale rows 13–13, rarely 14–13 or 14–14; temporals generally 1–1 (1–1 on one or both sides in 87 percent of specimens); color brownish, unbanded; ventrals of males 126 to 142, of females 136 to 151 ---------- taylori

5. Caudals 53 or more in males, 45 or more in females; scale rows 15–14 (posterior scale rows counted in reference to scale reduction in mid-dorsal region, disregarding lateral irregularities) ---------- 6

Caudals 52 or fewer in males, 44 or fewer in females; scale rows various ---------- 8

6. Ventrals minus caudals 97 or fewer in males, 115 or fewer in females; tail 23 to 25.2 percent of total length in males, 20.3 to 21.6 percent in females (in preserved specimens) ---------- semiannulata blanchardi

Ventrals minus caudals 98 or more in males, 116 or more in females; tail 19.4 to 23.3 percent of total length in males, 16.4 to 20 percent in females ---------- 7

7. Without cross bands, but with a distinct, rather sharp-edged dorsal reddish stripe that contrasts in color with the bluish-gray to brownish-gray sides ---------- semiannulata linearis

With or without cross bands, but if bands are lacking, color not as described above ---------- 10

8. Ventrals minus caudals in males generally more than 109, in females presumably averaging over 127 (no females known); scale rows 15–14; pattern consisting of dark cross bands ---------- semiannulata semiannulata

Ventrals minus caudals in males generally less than 109, in females generally less than 127; scale rows and color as above or otherwise ---------- 9

9. Scale rows typically 15–15, occasionally 15–14; ventrals plus caudals in males 195 or less in 82 percent of specimens (average, 191.1), in females 200 or less in 92 percent of specimens (average 194.4); color highly variable ---------- episcopa

Scale rows 15–14–13 in the four known males and 15–14 in the single known female; ventrals plus caudals in 3 males 196 to 200 (average, 198.6), in the female 203; color unbanded, all brown ---------- mosaueri

10. Ground color yellow-brown; cross bands relatively wider, closer together, not tapering laterally ---------- bancroftae

Ground color white, generally suffused with cream or red in life; cross bands narrower, farther apart, tapering laterally ---------- semiannulata isozona

SONORA AEQUALIS, new name[63]

?*Contia episcopa isozona* DUGÈS, La Naturaleza, ser. 2, vol. 2, 1896, p. 481.
? *Scolecophis atrocinctus* COPE, U. S. Nat. Mus. Bull. 32, 1887, p. 83.
Sonora sp. STICKEL, Proc. Biol. Soc. Washington, vol. 56, 1943, pp. 117–118.

Type.—Univ. Mich. Mus. Zool.

Type locality.—Central Mexico.

Range.—As indicated, the upper Balsas Basin, in Michoacán, México, Puebla, and other adjacent states (definitely recorded from no locality; suggested as possible localities are Zitácuaro, *Michoacán;* vicinity of Toluca, *México;* and La Paz, *Puebla*).[64]

SONORA BANCROFTAE Klauber

Sonora bancroftae KLAUBER, Trans. San Diego Soc. Nat. Hist., vol. 10, 1943, pp. 69–70.

Type.—L. M. Klauber (San Diego, Calif.) Coll. No. 35077.

Type locality.—Two miles east of San Jorge, Baja California.

Range.—Western slopes of northern Baja California; known only from the type locality.

SONORA EPISCOPA (Kennicott)

Lamprosoma episcopum KENNICOTT, *in* Baird, Rep. U. S. Mexican Bound. Surv., vol. 2, 1859, Rept., p. 22, pl. 8, fig. 2.

Sonora episcopa STEJNEGER and BARBOUR, A check list of North American amphibians and reptiles, ed. 1, 1917, p. 92.—STICKEL, Copeia, 1938, No. 4, pp. 184–185.

Sonora episcopa episcopa STICKEL, Proc. Biol. Soc. Washington, vol. 56, 1943, pp. 121–122.

Type—Unknown.

Type locality.—Restricted to Eagle Pass, Maverick County, Tex. (included also "San Antonio to Rio Grande").

Range.—Nuevo León and probably northern Coahuila northward through central Texas to central Kansas and western central Missouri, west to southeastern Colorado and extreme eastern New Mexico (recorded only from "Nuevo Leon" in Mexico).

SONORA MICHOACANENSIS MICHOACANENSIS (Dugès)

Contia michoacanensis DUGÈS, *in* Cope, Proc. Amer. Philos. Soc., vol. 22, 1884 (1885), pp. 178–179.

Sonora erythrura TAYLOR, Herpetologica, vol. 1, 1937, pp. 69–71, pl. 6, fig. 1 (type locality, 10 miles south of Taxco, Guerrero; type, E. H. Taylor-H. M. Smith Coll. No. 5440).

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[63] We suggest this name, emphasizing the distinctive character of the light and dark bands (equal in length), for the species described in detail by Stickel (*loc. cit.*). A name is required since we believe all clearly valid species should be made known with a name to systematists. If the available material of a species unknown in the literature does not merit proposal of a name for it, then it likewise does not warrant proposal as a species into zoological literature. This general policy does not, of course, apply to material of dubious specific allocation.

[64] See Stickel, *op. cit.*

Sonora michoacanensis michoacanensis Stickel, Proc. Biol. Soc. Washington, vol. 56, 1943, pp. 113–116.

Type.—Lost; neotype, Brit. Mus. No. 1903.3.21.

Type locality.—"Michoacan."

Range.—Probably the higher elevations of the lower Río Balsas Basin (known only from Hacienda California (near Apatzingán), *Michoacán*, Chilpancingo, *Guerrero*, and 10 miles south of Taxco, *Guerrero*).

SONORA MICHOACANENSIS MUTABILIS Stickel

Homalocranium michoacanense Günther, Biologia Centrali-Americana, Rept. Batr., 1895, pp. 104, 150, pl. 36, figs. B, C.

Sonora michoacanensis Dunn, Amer. Mus. Nov., No. 314, 1928, p. 2.—Taylor, Herpetologica, vol. 1, 1937, pp. 71–72, pl. 6, fig. 2.

Sonora michoacanensis mutabilis Stickel, Proc. Biol. Soc. Washington, vol. 56, 1943, pp. 116–117.

Type.—E. H. Taylor-H. M. Smith Coll. No. 4661.

Type locality.—Magdalena, Jalisco.

Range.—Southern portion of the main plateau, from western central Jalisco through southern Zacatecas to Distrito Federal (recorded only from *Distrito Federal;* Mezquital del Oro, *Zacatecas;* and the type locality).

SONORA MOSAUERI Stickel

Sonora mosaueri Stickel, Copeia, 1938, No. 4, pp. 189–190; Proc. Biol. Soc. Washington, vol. 56, 1943, p. 119.

Type.—Mus. Vert. Zool. No. 13772.

Type locality.—Comondú, Baja California.

Range.—Central Baja California (recorded only from the vicinity of Comondú).

*SONORA SEMIANNULATA SEMIANNULATA Baird and Girard

Sonora semiannulata Baird and Girard, Catalogue of North American reptiles, 1853, p. 117.

Sonora semiannulata semiannulata Stickel, Copeia, 1938, No. 4, p. 185 (part); Proc. Biol. Soc. Washington, vol. 56, 1943, pp. 119–120.

Type.—U.S.N.M. No. 2109.

Type locality.—Restricted to the Santa Rita Mountains, Ariz. (originally stated "Sonora").

Range.—Known only from the Santa Rita Mountains of Arizona; probably occurs in adjacent *Sonora.*

SONORA SEMIANNULATA BLANCHARDI Stickel

Sonora semiannulata blanchardi Stickel, Copeia, 1938, No. 4, pp. 185–186; Proc. Biol. Soc. Washington, vol. 56, 1943, p. 121.

Type.—Univ. Mich. Mus. Zool. No. 83122.

Type locality.—Northeastern slopes of the Chisos Mountains, Brewster County, Tex.

Range.—Southern Great Bend region of western Texas, west to the vicinity of El Paso, Tex., and Lake Santa María, Chihuahua, southward through central Chihuahua, and northward in the Rio Grande Valley in New Mexico (recorded in Mexico only from 20 miles south of Chihuahua and Lake Santa María, *Chihuahua;* it may be expected in Coahuila and perhaps Nuevo León).

SONORA SEMIANNULATA ISOZONA (Cope)

Contia isozona Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866, p. 304.

Sonora semiannulata Van Denburgh, Occ. Pap. California Acad. Sci., vol. 10, 1922, pp. 863–865, pl. 96.—Woodbury, Bull. Univ. Utah, vol. 21, No. 5, 1931, p. 95, figs. 41, 42.

Sonora semiannulata semiannulata Stickel, Copeia, 1938, No. 4, p. 185 (part).

Sonora semiannulata isozona Stickel, Proc. Biol. Soc. Washington, vol. 56, 1943, pp. 120–121.

Type.—U.S.N.M. No. 11417.

Type locality.—Fort Whipple, Yavapai County, Ariz.

Range.—Perhaps extreme northern Sonora and northwestern Chihuahua, northward to the Snake River region of Idaho, westward to Inyo County, Calif., eastward through most of Arizona and Utah, and southward through the northern half of Baja California on the east coast (recorded in Mexico only Santa Rosalía, *Baja California;* a record for Jaral, *Coahuila*, is apparently incorrect).

SONORA SEMIANNULATA LINEARIS Stickel

Sonora miniata linearis Stickel, Copeia, 1938, No. 4, p. 189.

Sonora semiannulata linearis Stickel, Proc. Biol. Soc. Washington, vol. 56, 1943, p. 121.

Type.—L. M. Klauber Coll. (San Diego, Calif.) No. 2013.

Type locality.—Seeley, Imperial County, Calif.

Range.—Northeastern Baja California through southeastern California to southeastern San Bernardino County (recorded in Mexico only from the Cocopah Mountains, *Baja California*).

SONORA TAYLORI (Boulenger)

Contia taylori Boulenger, Catalogue of the snakes in the British Museum, vol. 2, 1894, p. 265, pl. 12, fig. 3.

Sonora taylori Stejneger and Barbour, A check list of North American amphibians and reptiles, ed. 1, 1917, p. 92.—Stickel, Copeia, 1938, No. 4, p. 184.—Mulaik and Mulaik, Copeia, 1941, No. 4, p. 263.

Sonora episcopa taylori Stickel, Proc. Biol. Soc. Washington, vol. 56, 1943, p. 122.[65]

Type.—Brit. Mus. Nat. Hist.

Type locality.—Restricted to Duval County, Tex. (included "Nuevo Leon").

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[65] We hesitate to accept the converging trends of *episcopa* and *taylori*, pointed out by Stickel, as sufficient evidence of intergradation.

Range.—Central Nuevo León northward through extreme southern Texas (known only from "Nuevo Leon" in Mexico).

Genus SPILOTES Wagler

Spilotes WAGLER, Natürliches System der Amphibien, 1830, p. 179.—AMARAL, Mem. Inst. Butantan, vol. 4, 1929, pp. 275–298, figs. 1–7 (brief generic revision).

Agriotes JAN, Elenco sistematico degli Ofidi, 1863, p. 81 (type, *Herpetodryas incertus* Jan).

Genotype.—*Cerastes coronatus* Laurenti.

Range.—Central Veracruz and Chiapas southward through Central America and most of South America, to northern Argentina.

Species.—Five subspecies comprise a single species; only one race occurs in Mexico.

SPILOTES PULLATUS MEXICANUS (Laurenti)

Cerastes mexicanus LAURENTI, Specimen medicum exhibens synopsin reptilium, 1768, p. 83.

Spilotes pullatus mexicanus AMARAL, Mem. Inst. Butantan, vol. 4, 1929, pp. 282–284, fig. 2.—SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 470–471.

Coluber novae Hispaniae GMELIN, Systema naturae, ed. 12, 1788, p. 1088 ("type" locality, New Spain; "type" unknown).[66]

Spilotes variabilis GÜNTHER, Catalogue of the snakes in the British Museum, 1858, pp. 99–100 (type locality indefinite: Mexico, Brazil, Berbice; type in Brit. Mus. Nat. Hist.).

Spilotes pullatus auribundus COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861, p. 300 (type locality, Mirador, Veracruz; cotypes, U.S.N.M. Nos. 25004–6).

Spilotes salvini GÜNTHER, Ann. Mag. Nat. Hist., ser. 3, vol. 9, 1862, p. 125, pl. a, fig. 5 (type locality, Izabal, Guatemala; type in Brit. Mus. Nat. Hist.); Biologia Centrali-Americana, Rept., 1894, pp. 116–117, pl. 42 (in color).

Herpetodryas incertus (*Agriotes*) JAN, Elenco sistematico degli Ofidi, 1863, p. 81 (type locality, Belize, British Honduras; type in Hamburg Mus.).

Type.—Unknown.

Type locality.—Mexico.

Range.—Extreme southern Tamaulipas on the Atlantic and extreme eastern Oaxaca on the Pacific, southward on both coasts to Honduras, including all the Yucatán Peninsula (except semiarid coastal areas) (known in Mexico from the states of Campeche, Chiapas, Oaxaca, Quintana Roo, San Luis Potosí,[67] Tabasco, Tamaulipas [Alta Mira], Veracruz, and Yucatán; Boulenger's record [Catalogue of the snakes in the British Museum, vol. 2, 1894, p. 33] for Atoyac, *Guerrero*, is believed to refer to the town by the same name in the state of Veracruz, for the species is otherwise unknown from the Pacific coast north of the Isthmus of Tehuantepec).

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[66] Not available because not binomial, violating Article 15 of the International Rules of Zoological Nomenclature.

[67] Between Río Axtla and Río Moctezuma, M.Z.U.M. No. 89574.

Genus STENORRHINA Duméril

Stenorrhina Duméril, Mém. Acad. Inst. France, vol. 23, 1853, p. 490.

Stenorhina Duméril, Bibron, and Duméril, Erpétologie générale, vol. 7, pt. 2, 1854, p. 154 (emendation of *Stenorrhina*).

Bergenia Steindachner, Reise de österreichischen Fregatte *Novara*, Rept., 1867, pp. 92–93 (type, *B. mexicana* Steindachner).

Genotype.—*Stenorrhina ventralis* Duméril.

Range.—Central Veracruz and central Guerrero southward into South America.

Species.—Four species and subspecies occur in Mexico; at least two are extralimital.

KEY TO MEXICAN FORMS OF STENORRHINA

1. Belly pigmented; no indication of a black temporal stripe; rarely a loreal, prefrontals usually in contact with labials or narrowly separated from them; young spotted ________ degenhardtii mexicana

Belly white, rarely pigmented a little; a black temporal stripe at least indicated; a loreal or not, but prefrontals always broadly separated from labials; young colored like the adults, unspotted ________ 2

2. Ground color red; scales not black at base; a middorsal stripe evident or not; rarely any indication of dorsolateral dark stripes __ freminvillii lactea

Ground color gray; usually five distinct dark lines, or scales dark at bases ________ 3

3. Five lines, all generally distinct ________ freminvillii freminvillii

No lines; bases of scales distinctly black ________ freminvillii apiata

STENORRHINA DEGENHARDTII MEXICANA (Steindachner)

Bergenia mexicana Steindachner, Reise der österreichischen Fregatte *Novara*, 1867, pp. 92–93, fig. —.

Stenorhina mexicana Taylor, Univ. Kansas Sci. Bull., vol. 27, 1941, pp. 122–124, fig. 3.

Stenorhina degenhardtii mexicana Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 472.

Type.—Uncertain.

Type locality.—Mexico.

Range.—Central Veracruz southward to the Isthmus of Tehuantepec (known from several localities in central Veracruz; a record from "Coatzacoalcos River" may be referable to this species).

STENORRHINA FREMINVILLII FREMINVILLII Duméril, Bibron, and Duméril

Stenorhina Freminvillii Duméril, Bibron, and Duméril, Erpétologie générale, vol. 7, pt. 2, 1854, pp. 868–869, pl. 70, figs. 1–2.

Stenorhina freminvillii freminvillii Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 472.

Microphis quinqueliniatus [sic] Hallowell, Proc. Acad. Nat. Sci. Philadelphia, vol. 7, 1854 (1855), p. 97 (type locality, Honduras; types, Acad. Nat. Sci. Phila. No. 5753–4).

Stenorhina Degenhardti quinquelineata Jan, Arch. Zool. Anat. Fis., vol. 2, 1862, pp. 55, 65 (type locality, Mexico and Central America; type in Copenhagen

Mus.); Iconographie générale des ophidiens, livr. 48, 1876, pl. 2, fig. 6.—Taylor and Smith, Univ. Kans. Sci. Bull., vol. 25, 1938 (1939), p. 255, pl. 23, fig. 2.

Type.—Mus. Hist. Nat. Paris.

Type locality.—Mexico.

Range.—Central Oaxaca and probably central Chiapas, northward to Guerrero, not reaching the coast (known in Mexico from the states of Oaxaca [Guichicovi, San José Lachiguiri, and Totolapan] and Guerrero).

STENORRHINA FREMINVILLII APIATA Cope

Stenorhina degenhardtii apiata Cope, Journ. Acad. Nat. Sci. Philadelphia, ser. 2, vol. 8, 1876, p. 142.

Stenorhina freminvillii apiata Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 472.

Geophis multitorques yucatanicus Barbour and Cole, Bull. Mus. Comp. Zool., vol. 50, No. 5, 1906, p. 153 (type locality, Chichen Itzá, Yucatán; type, Mus. Comp. Zool. No. 7037).

Type.—U.S.N.M. No. 70405.

Type locality.—El Barrio, Oaxaca.

Range.—Atlantic slopes from the Isthmus of Tehuantepec throughout the peninsula of Yucatán, probably in Guatemala, and possibly northward to central Veracruz (known from El Barrio, *Oaxaca;* Córdoba, *Veracruz* [in error?]; and several localities in *Yucatán*).

STENORRHINA FREMINVILLII LACTEA Cope

Stenorhina lactea Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861, p. 303.

Stenorhina freminvillii lactea Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 472–473.

Stenorhina degenhardti apiata Taylor and Smith (*nec* Cope), Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), p. 255, fig. 4 (head only).

Type.—U.S.N.M. No. 4944.

Type locality.—In doubt; "La Union, Guatemala," but perhaps La Unión, El Salvador.

Range.—Pacific coast, Guerrero to Costa Rica (known in Mexico only from Tapanatepec, Putla, and vicinity of Tehuantepec, *Oaxaca;* Acapulco, *Guerrero;* and Monte Cristo, *Chiapas*).

Genus SYMPHIMUS Cope

Symphimus Cope, Proc. Amer. Philos. Soc., vol. 11, 1869, p. 150.

Genotype.—*Symphimus leucostomus* Cope.

Range.—The Pacific slopes of the Isthmus of Tehuantepec.

Species.—One.

SYMPHIMUS LEUCOSTOMUS Cope

Symphimus leucostomus Cope, Proc. Amer. Philos. Soc., vol. 11, 1869, p. 150.—Gaige, Publ. Carnegie Inst. Washington, No. 457, 1936, p. 300.—Hartweg and Oliver, Misc. Publ. Mus. Zool Univ. Michigan, No. 47, 1940, p. 23.

Type.—U.S.N.M. No. 30310.

Type locality.—Chihuitan, Oaxaca.

Range.—The central and Pacific slopes of the Isthmus of Tehuantepec (recorded from Chihuitan, El Barrio, Tres Cruces, and Mixtequilla Mountains, *Oaxaca*).

Genus SYMPHOLIS Cope

Sympholis Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861 (1862), p. 524.

Genotype.—*Sympholis lippiens* Cope.

Range.—Western Jalisco and eastern Nayarit.

Species.—One.

SYMPHOLIS LIPPIENS Cope

Sympholis lippiens Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861 (1862), p. 524.

Cheilorhina Villarsii Jan, Arch. Zool. Anat. Fis., vol. 2, 1862, pp. 54, 57 (type locality, western Mexico; type in Milan, Torino Mus.) ; Iconographie générale des ophidiens, livr. 48, 1876, pl. 1, fig. 5.

Type.—U.S.N.M. Nos. 31345–6.

Type locality.—Guadalajara, Jalisco.

Range.—Western Jalisco and eastern Nayarit (known only from the type locality and from Tepic, *Nayarit*).

Genus TANTILLA Baird and Girard

Tantilla Baird and Girard, Catalogue of North American repties, 1853, p. 131.—Smith, Zoologica, vol. 27, No. 7, 1942, pp. 33–42 (Mexican species).

Genotype.—*Tantilla coronata* Baird and Girard.

Range.—Southern half of the United States southward through Mexico and Central America into South America.

Species.—About 45 species and subspecies, 27 in Mexico.

KEY TO MEXICAN FORMS OF TANTILLA

1. Ventral surface heavily pigmented ---------- moesta
   Ventral surface light, only extreme lateral tips of ventrals sometimes pigmented ---------- 2
2. A lateral light stripe (a median also, but sometimes dim) at least anteriorly; no median middorsal dark stripe ---------- 3
   No lateral light stripes; or, if present, a middorsal dark stripe also present ---------- 4
3. Two light spots on nuchal region, involving tips of parietals; ventrals 157 to 165, caudals 34 to 42 ---------- striata
   A light nuchal collar, involving tips of parietals; ventrals 139 to 154, caudals 40 to 50 ---------- jani
4. A lateral light stripe and a middorsal dark stripe; neck as well as head dark, collar (if present) crossing neck several scales back of head ---------- mexicana
   Not as described ---------- 5
5. Body with three or five distinct dark stripes ---------- 5a
   Body not striped; or, if striped, with only a median stripe ---------- 8

5a. Ventrals 165; 7 supralabials; no dark or light collar; three dark lines. coronadoi

Ventrals 152 or less ---------- 6

6. A light nuchal collar (may be broken medially); seven supralabials; five dark lines on body ---------- deppei

No light collar; six supralabials; three dark lines ---------- 7

7. Lateral stripe on adjacent halves of fourth and fifth rows; no preocular; ventrals 114; caudals 39 ---------- martindelcampoi

Lateral stripe on adjacent halves of third and fourth rows; a preocular (sometimes very minute); ventrals 119 to 132; caudals 27 to 35 ---------- calamarina

8. Dorsal surface of body dark *and* the dark color sharply differentiated from lighter ventral color at ends of ventrals ---------- 9

Dorsal surface of body dark or light, but, if dark, color not sharply differentiated from lighter ventral color at ends of ventrals ---------- 10

9. Sides of body darker than middorsal area, the two areas rather sharply differentiated and separated by a dim, narrow, light line; ventrals 140 to 154; caudals 49 to 53 ---------- cuniculator

Sides of body not darker than or distinctly differentiated from color of middorsum ---------- 9a

9a. Ventrals 149, caudals 56 in a male; mental separated from chin shields. morgani

Ventrals 137 to 143, caudals 31 to 44 in males; mental in contact with chin shields ---------- phrenitica

10. Head of about same color as back, or, if darker, its color not sharply differentiated from that of back; *and* no light nuchal collar ---------- canula

Head black or dark brown, sharply differentiated from color of back, *or*, a light nuchal collar present ---------- 11

11. Black head cap V-shaped, its apex extending three to five scale lengths posterior to parietals on middorsal line; no nuchal collar; body light ---------- 12

Black head cap with a straight or slightly convex posterior margin; a nuchal collar at least faintly visible, not necessarily dark-edged behind; body dark or light ---------- 13

12. Ventrals in males 136 to 150, in females 150 to 161 ---- nigriceps nigriceps

Ventrals in males 130 to 138, in females 141 to 150 ---- nigriceps fumiceps

13. Nuchal collar indistinct, of about one scale length, not dark-edged posteriorly (sometimes a few black dots) ---------- 14

Nuchal collar very distinct, usually of more than one scale length, dark edged posteriorly ---------- 18

14. Black of head extending below angle of mouth onto gular scales, and posteriorly two or more scale lengths ---------- 16

Black of head not extending below angle of mouth onto gular scales, and posteriorly two or less scale lengths ---------- 15

15. A fine, distinct, black, middorsal line; 3 temporals; ventrals 129 in type; usually (?) 1 postocular ---------- hobartsmithi

No middorsal dark line; 2 elongate temporals; ventrals 123 to 158; usually 2 postoculars ---------- atriceps

16. A light area bordering lip behind eye and extending to middle of primary temporal; naris much nearer upper than lower border of nasal- 16a

No light area as described; naris equidistant from upper and lower borders of nasal ---------- 17

16a. Caudals 66 in a female; mental in contact with chin shields; black head cap covering 3 scale rows back of parietals ---------- yaquia

Caudals 46 in a female (51 in a male); mental separated from chin shields; black head cap covering 4 scale rows ---------- bogerti

17. Ventrals 134 to 140; nasal divided only below naris ---------- planiceps

Ventrals 164 to 197; nasal divided both above and below naris ---------- 23

18. Posterior temporal about as broad as long, scalelike; *and*, ventrals 164 to 185 (195?) ---------- bocourti

Posterior temporal elongate, much longer than broad; *or*, if scalelike, ventrals fewer than 164 ---------- 19

19. Posterior black border of nuchal collar covering one scale length or less ---------- 20

Posterior black border of nuchal collar covering two or three scale lengths ---------- 21

20. Caudals 62 to 69 ---------- wilcoxi wilcoxi

Caudals 51 to 60 ---------- wilcoxi rubricata

21. Caudals 62 or more ---------- 22

Caudals 46 to 49 (+) in known specimens ---------- miniata

22. Black of dorsal surface of head not reaching labial border; dorsal and ventral surfaces not pink ---------- deviatrix

Black of dorsal surface of head reaching labial border; dorsal and ventral surfaces pink ---------- rubra

23. Ventrals 164 to 175 in males, 169 to 182 in females; average tail length at a total length of 300 mm., 74 in males, 66 in females; darker ---------- eiseni eiseni

Ventrals 175 to 184 in males, 190 to 197 in females; average tail length at a total length of 300 mm., 69 in males, 59 in females; lighter ---------- eiseni transmontana

TANTILLA ATRICEPS (Günther)

Homalocranium atriceps Günther, Biologia Centrali-Americana, Rept., 1895, pp. 146–147, pl. 52, fig. B.

Tantilla atriceps Amaral, Mem. Inst. Butantan, vol. 4, 1929, p. 219.—Smith, Zoologica, vol. 27, 1942, p. 34.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Nuevo León.

Range.—Central San Luis Potosí northward to western Oklahoma and central Arizona (recorded in Mexico from near Saltillo and Ciudad Allende, *Coahuila; Nuevo León;* and Kilometer 102 north of San Luis Potosí, *San Luis Potosí*).

TANTILLA BOCOURTI (Günther)

Homalocranium bocourti Günther, Biologia Centrali-Americana, Rept., 1895, p. 149.

Tantilla bocourti Cope, Amer. Nat., vol. 30, 1896, p. 1021.—Taylor, Trans. Kansas Acad. Sci., vol. 39, 1936 (1937), pp. 335–337, fig. 1; Univ. Kansas Sci. Bull., vol. 26, 1939 (1940), pp. 481–482.—Smith, Zoologica, vol. 27, 1942, pp. 34–35.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Guanajuato.

Range.—Southern portion of the central Mexican Plateau from Jalisco east to central Veracruz; also the Sierra Madre del Sur in central Guerrero (recorded from the states of Guerrero, Guanajuato, Jalisco, Michoacán, Morelos, Puebla, Veracruz, and from Distrito Federal).

TANTILLA BOGERTI Hartweg

Tantilla bogerti Hartweg, Occ. Pap. Mus. Zool. Univ. Michigan, No. 468, 1944, pp. 1–4.

Type.—Amer. Mus. Nat. Hist. No. 62259.

Type locality.—Acaponeta, Nayarit.

Range.—Known only from the type locality.

TANTILLA CALAMARINA Cope

Tantilla calamarina Cope, Proc. Acad. Nat. Sci. Philadelphia, 1866, p. 320.—Smith, Zoologica, vol. 27, 1942, p. 35.

Tantilla bimaculata Cope, Journ. Acad. Nat. Sci. Philadelphia, ser. 2, vol. 8, 1876, p. 143 (type locality, Mazatlán, Sinaloa; type, U.S.N.M. No. 6834).—Taylor, Trans. Kansas Acad. Sci., vol. 39, 1936 (1937), pp. 346–347, fig. 5.

Type.—U.S.N.M. No. 6600.

Type locality.—Guadalajara, Jalisco.

Range.—The edge of the central Mexican Plateau from southern Sinaloa through Distrito Federal to extreme northeastern Puebla (recorded from Distrito Federal and from the states of Colima, Jalisco, Michoacán, Morelos, Nayarit, Puebla, and Sinaloa).

TANTILLA CANULA Cope

Tantilla canula Cope, Journ. Acad. Nat. Sci. Philadelphia, ser. 2, vol. 8, 1876, p. 144.—Smith, Zoologica, vol. 27, 1942, p. 35.

Type.—U.S.N.M. Nos. 24880–2.

Type locality.—Yucatán.

Range.—Northern portion of the Yucatán Peninsula (the only known specific localities are Libre Unión and Chichen Itzá, *Yucatán*).

TANTILLA CORONADOI Hartweg

Tantilla coronadoi Hartweg, Occ. Pap. Mus. Zool. Univ. Michigan, No. 486, 1944, pp. 4–5.

Type.—Mus. Zool. Univ. Michigan No. 85697.

Type locality.—Chilpancingo, Guerrero.

Range.—Known only from the type locality; probably the Sierra Madre del Sur, Guerrero.

TANTILLA CUNICULATOR Smith

Tantilla moesta cuniculator Smith, Publ. Field Mus. Nat. Hist., zool. ser., vol. 24, 1939, pp. 32–34.

Tantilla cuniculator Smith, Zoologica, vol. 27, 1942, pp. 35–36.

Type.—Field Mus. Nat. Hist. No. 19408.

Type locality.—Mérida, Yucatán.

Range.—Northern portion of the Yucatán Peninsula (known only from the type locality).

TANTILLA DEPPEI (Bocourt)

Homalocranion deppei Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 9, 1883, pp. 584–585; livr. 10, 1886, pl. 36, fig. 11.
Tantilla deppei Smith, Zoologica, vol. 27, 1942, p. 36.

Type.—Mus. Hist. Nat. Paris, Berlin Mus., three cotypes.

Type locality.—Mexico.

Range.—Unknown; "southern Mexico."

TANTILLA DEVIATRIX Barbour

Tantilla deviatrix Barbour, Proc. Biol. Soc. Washington, vol. 29, 1916, p. 94.—Smith, Zoologica, vol. 27, 1942, p. 36.

Type.—Mus. Comp. Zool. No. 6195.

Type locality.—San Luis Potosí, San Luis Potosí.

Range.—Southern San Luis Potosí (known only from the type locality and from Alvarez, *San Luis Potosí*).

TANTILLA EISENI EISENI Stejneger

Tantilla eiseni Stejneger, Proc. U. S. Nat. Mus., vol. 18, 1896, p. 117.—Van Denburgh, Occ. Pap. California Acad. Sci., vol. 10, 1922, pp. 876–878, pl. 97.
Tantilla eiseni eiseni Klauber, Trans. San Diego Soc. Nat. Hist., vol. 10, 1943, pp. 71–74.

Type.—U.S.N.M. No. 11766a.

Type locality.—Fresno, Calif.

Range.—West of the Gulf of California drainage, from southeastern Alameda County and Fresno, Calif., southward through northwestern Baja California as far as San Quintín.

*TANTILLA EISENI TRANSMONTANA Klauber

Tantilla eiseni transmontana Klauber, Trans. San Diego Soc. Nat. Hist., vol. 10, 1943, pp. 71–74.

Type.—L. M. Klauber (San Diego, Calif.) Coll. No. 29273.

Type locality.—One mile east of Yaqui Well, San Diego County, Calif.

Range.—Western slopes of the Colorado Desert in central Riverside and eastern San Diego Counties, Calif., and probably southward into northeastern Baja California (not yet recorded from Mexico, but to be expected).

TANTILLA HOBARTSMITHI Taylor

Tantilla hobartsmithi Taylor, Trans. Kansas Acad. Sci., vol. 39, 1936 (1937), pp. 340–342, fig. 2.—Smith, Zoologica, vol. 27, 1942, p. 36.

Type.—E. H. Taylor-H. M. Smith Coll. No. 4558.

Type locality.—Ten miles northwest of Guaymas, Sonora.

Range.—Known only from the type locality.

TANTILLA JANI (Günther)

Homalocranium jani GÜNTHER, Biologia Centrali-Americana, Rept., 1895, p. 148, pl. 52, fig. D.
Tantilla jani SMITH, Zoologica, vol. 27, 1942, pp. 36–37.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Guatemala.

Range.—Eastern portion of the Isthmus of Tehuantepec, on the Pacific side, southeastward through Chiapas into Guatemala (recorded in Mexico only from near Escuintla, *Chiapas*, and Tapanatepec, *Oaxaca*).

TANTILLA MARTINDELCAMPOI Taylor

Tantilla martindelcampoi TAYLOR, Trans. Kansas Acad. Sci., vol. 39, 1936 (1937), pp. 347–348, fig. 6; Univ. Kansas Sci. Bull., vol. 26, 1939 (1940), p. 483.—SMITH, Zoologica, vol. 27, 1942, p. 37.

Type.—E. H. Taylor-H. M. Smith Coll. No. 4550.

Type locality.—El Treinta, Guerrero.

Range.—Southern central Guerrero (known only from the type locality).

TANTILLA MEXICANA (Günther)

Elapomorphus mexicanus GÜNTHER, Ann. Mag. Nat. Hist., ser. 3, vol. 9, 1862, p. 57, pl. 9, fig. 1.
Tantilla mexicana SMITH, Zoologica, vol. 27, 1942, pp. 37–38.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Mexico.

Range.—Unknown.

TANTILLA MINIATA Cope

Tantilla miniator COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 15, 1863, p. 100.
Tantilla miniata COPE, U. S. Nat. Mus. Bull. 32, 1887, p. 84 (corrects *miniator*, "errore typogr.").—SMITH, Zoologica, vol. 27, 1942, p. 38.
Homalocranium boulengeri GÜNTHER, Biologia Centrali-Americana, Rept., 1895, pp. 148–149, pl. 52, fig. F (type locality, Huatusco, Veracruz; type in Brit. Mus. Nat. Hist.).

Type.—U.S.N.M. No. 25031.

Type locality.—Mirador, Veracruz.

Range.—Central Veracruz, foothills (known only from the type locality and Huatusco, *Veracruz*).

TANTILLA MOESTA (Günther)

Homalocranium moestum GÜNTHER, Ann. Mag. Nat. Hist., ser. 3, vol. 12, 1863, p. 352; Biologia Centrali-Americana, Rept., 1895, p. 152, pl. 52, fig. E.
Tantilla moesta COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866, p. 126.—SMITH, Zoologica, vol. 27, 1942, p. 38.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Petén, Guatemala.

Range.—The peninsula of Yucatán to Petén, Guatemala (known in Mexico from Chichen Itzá and Mayapan, *Yucatán*).

TANTILLA MORGANI Hartweg

Tantilla morgani Hartweg, Occ. Pap. Mus. Zool. Univ. Michigan, No. 486, 1944, pp. 5–7.

Type.—Mus. Zool. Univ. Michigan No. 85968.

Type locality.—Necaxa, Puebla.

Range.—Known only from the type locality.

TANTILLA NIGRICEPS NIGRICEPS Kennicott

Tantilla nigriceps Kennicott, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 328.—Blanchard, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1938, pp. 373, 375, 376.—Schmidt and Smith, *ibid.*, vol. 29, 1944, p. 94.

Tantilla nigriceps nigriceps Smith, Copeia, 1938, No. 3, p. 150; Zoologica, vol. 27, 1942, p. 38.

Type.—U.S.N.M. Nos. 2040, 4491, two cotypes.

Type locality.—Indianola to Nueces, Tex., and Fort Bliss, "New Mexico" (Tex.).

Range.—Central Kansas and southeastern Missouri south through western Texas, New Mexico, northern Chihuahua, and perhaps extreme northeastern Sonora and northwestern Coahuila (recorded in Mexico only from Progreso, *Chihuahua*).

TANTILLA NIGRICEPS FUMICEPS (Cope)

Scolecophis fumiceps Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860 (1861), p. 371.

Tantilla nigriceps fumiceps Smith, Copeia, 1941, No. 2, p. 112; Zoologica, vol. 27, 1942, pp. 38–39.

Tantilla kirnia Blanchard, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1938, pp. 373–374 (type locality, 9 miles east of Pleasanton, Atascosa County, Tex.; type, Field Mus. Nat. Hist. No. 28102).

Tantilla nigriceps kirnia Smith, Copeia, 1938, No. 3, p. 150.

Type.—U.S.N.M. No. 12135.

Type locality.—"Probably Cuba," in error; restricted to that of *T. kirnia.*

Range.—Southern Oklahoma southward through central Texas into northern Tamaulipas (recorded in Mexico only from Mier, *Tamaulipas*).

TANTILLA PHRENITICA Smith

Tantilla phrenitica Smith, Zoologica, vol. 27, 1942, p. 39.

Type.—U.S.N.M. No. 110381.

Type locality.—Cuautlapan, Veracruz.

Range.—Central Veracruz southward in the Atlantic foothills to Guatemala, apparently avoiding the Yucatán Peninsula (known from the type locality and El Limón Totalco, *Veracruz*, and Totontepec, *Oaxaca*).

TANTILLA PLANICEPS (Blainville)

Coluber planiceps BLAINVILLE, Nouv. Ann. Mus. Hist. Nat. Paris, vol. 4, 1835, p. 294, pl. 27, fig. 3.
Tantilla planiceps COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861, p. 74.

Type.—Mus. Hist. Nat. Paris.

Type locality.—California (including Baja California).

Range.—Southern half of Baja California.

TANTILLA RUBRA Cope

Tantilla rubra COPE, Journ. Acad. Nat. Sci. Philadelphia, ser. 2, vol. 8, 1876, p. 144.—SMITH, Zoologica, vol. 27, 1942, p. 40; Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1944, pp. 149–150.

Type.—U.S.N.M. No. 26500.

Type locality.—Tapanatepec (=Tapana or "Japana"), Oaxaca.

Range.—Pacific slopes of the Isthmus of Tehuantepec northward through central Oaxaca and the semiarid plains of Puebla and San Luis Potosí to southern Nuevo León (known from the states of Nuevo León, Oaxaca, Puebla, and San Luis Potosí).

TANTILLA STRIATA Dunn

Tantilla striata DUNN, Amer. Mus. Nov., No. 314, 1928, p. 3.—SMITH, Zoologica, vol. 27, 1942, p. 40.

Type.—Amer. Mus. Nat. Hist. No. 19745.

Type locality.—Mixtequilla, Oaxaca.

Range.—The Pacific slopes of the Isthmus of Tehuantepec (known only from the vicinity of the type locality).

TANTILLA WILCOXI WILCOXI Stejneger

Tantilla wilcoxi STEJNEGER, Proc. U. S. Nat. Mus., vol. 25, 1902, pp. 156–157
Tantilla wilcoxi wilcoxi SMITH, Zoologica, vol. 27, 1942, p. 40.

Type.—U.S.N.M. No. 19674.

Type locality.—Fort Huachuca, Ariz.

Range.—Southeastern Arizona and western Chihuahua (known in Mexico only from Mojarachic, *Chihuahua*).

TANTILLA WILCOXI RUBRICATA Smith

Tantilla wilcoxi rubricata SMITH, Zoologica, vol. 27, 1942, pp. 40–41; Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 477–478.

Type.—U.S.N.M. No. 110399.

Type locality.—Fifteen miles southeast of Galeana, Nuevo León.

Range.—Southeastern Coahuila to southern Nuevo León (known only from near Saltillo, *Coahuila;* Charcas, *San Luis Potosí;* and the type locality).

TANTILLA YAQUIA Smith

Tantilla yaquia SMITH, Zoologica, vol. 27, 1942, p. 41.

Type.—Mus. Comp. Zool. No. 43274.

Type locality.—Guasaremos, Río Mayo, Chihuahua.

Range.—Known only from the type locality.

Genus TANTILLITA Smith

Tantillita SMITH, Journ. Washington Acad. Sci., vol. 31, 1941, p. 117.

Genotype.—*Tantilla lintoni* Smith.

Range.—Chiapas and Guatemala.

Species.—Two.

KEY TO SPECIES OF TANTILLITA

1. Subcaudals 28 to 31; some evidence of a nuchal collar usually present-- brevissima
   Subcaudals 47; color uniform gray-brown above-------------------- lintoni

TANTILLITA BREVISSIMA (Taylor)

Tantilla brevissima TAYLOR, Trans. Kansas Acad. Sci., vol. 39, 1936 (1937), pp. 344–345, fig. 4.

Tantillita brevissima SMITH, Journ. Washington Acad. Sci., vol. 31, 1941, p. 117.

Type.—E. H. Taylor-H. M. Smith Coll. No. 4557.

Type locality.—Tonalá, Chiapas.

Range.—Known only from the type locality.

*TANTILLITA LINTONI (Smith)

Tantilla lintoni SMITH, Proc. Biol. Soc. Washington, vol. 53, 1940, pp. 61–62, fig. 1.

Tantillita lintoni SMITH, Journ. Washington Acad. Sci., vol. 31, no. 3, 1941, p. 117.

Type.—U.S.N.M. No. 108603.

Type locality.—Piedras Negras, Guatemala.

Range.—Atlantic foothills of Guatemala and undoubtedly of Chiapas (known only from the type locality).

Genus TOLUCA Kennicott

Toluca KENNICOTT, *in* Baird, Report on the United States and Mexican boundary survey, vol. 2, 1859, Rept., pp. 23–24.—TAYLOR and SMITH, Univ. Kansas Sci. Bull., vol. 28, 1942, pp. 338–340, figs. 4, 12 (map), pl. 30, fig. 1, pl. 35, fig. 1.

Oxyrhina JAN, Arch. Zool. Anat. Fis., vol. 2, 1862, p. 59 (type, *O. varians* Jan).

Achirhina JAN, *ibid.*, p. 61 (type, *A. defilippii* Jan).

Ogmius COPE, Proc. Amer. Philos. Soc., vol. 11, 1869, p. 162 (type, *O. varians* Jan).

Genotype.—*Toluca lineata* Kennicott.

Range.—The southern part of the Mexican Plateau, from Jalisco to Veracruz and southward in the central Oaxaca highlands and the Sierra Madre del Sur of central Guerrero.

Species.—Three species, one with four races, are recognized at present.

KEY TO FORMS OF TOLUCA

1. Internasals absent ---------- 2

   Internasals present ---------- 3
2. Snout bluntly conical; three posterior maxillary teeth somewhat enlarged, with a shallow groove ---------- conica

   Snout rather sharply pointed; posterior maxillary teeth very greatly enlarged, with a deep groove the length of tooth ---------- megalodon
3. Body with 3 or 5 more or less distinct lines, ventrals 114 to 126 in males, average 119 (80.3 percent less than 122), 118 to 132 in females, average 126 (85.6 percent less than 129); the second supralabial usually in contact with preocular (88.4 percent); belly spotted or stippled (immaculate in reddish phase); 6 or 7 lower labials ---------- 5

   Body with spots or transverse marks or tessellated ---------- 4
4. General pattern tending toward narrow, irregular markings, rarely lacking any distinct markings, or with a tessellated pattern; ventrals 119 to 130 in males, average 124 (16.2 percent less than 122), 122 to 141 in females, average 132 (12.9 percent less than 129); usually the second upper labial separated from preocular on one or both sides (73 percent); belly never spotted or stippled ---------- lineata varians

   General pattern usually forming spots transversely elongated, covering several scales; head usually black or with a black mark; ventrals 111–124 in males; 119–131 in females; belly and tail or at least tail spotted or pigmented ---------- lineata acuta
5. Infralabials generally 6–7 or less ---------- lineata wetmorei

   Infralabials generally 7–7 ---------- lineata lineata

TOLUCA CONICA Taylor and Smith

Toluca conica TAYLOR and SMITH, Univ. Kansas Sci. Bull., vol. 28, 1942, pp. 340-343, figs. 5, 12 (map), pl. 34, fig. 1.

Type.—E. H. Taylor-H. M. Smith Coll. No. 27517.

Type locality.—San Juan Guivini, Oaxaca.

Range.—The highlands of central Oaxaca and the Sierra Madre del Sur, Guerrero (known from Chilpancingo and Omilteme, *Guerrero;* Guajamaloya and San Juan Guivini, *Oaxaca*).

TOLUCA LINEATA LINEATA Kennicott

Toluca lineata KENNICOTT, *in* Baird, Report on the United States and Mexican boundary survey, vol. 2, 1859, Rept., pp. 23–24, pl. 21, fig. 2.

Toluca lineata lineata TAYLOR and SMITH, Univ. Kansas Sci. Bull., vol. 28, 1942, pp. 343–346, figs. 6, 12 (map), pl. 34, figs. 3, 7, 8.—SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 486, 491–492.

Oxyrhina (*Achirhina*) *De Filippii* JAN, Arch. Zool. Anat. Fis., vol. 2, 1862, pp. 60–61 (type locality, Mexico; type in Milan Mus.).

Type.—U.S.N.M. No. 2103.

Type locality.—Valley of Mexico.

Range.—Southern San Luis Potosí southward to Distrito Federal, westward to central Michoacán, eastward to Tlaxcala, avoiding the deserts of central Puebla (known from numerous localities in Distrito

Federal and the states of Guanajuato, Hidalgo, México, Michoacán, Morelos, Puebla, San Luis Potosí, and Tlaxcala).[68]

TOLUCA LINEATA ACUTA (Cope)

O. [*gmius*] *acutus* Cope, *in* Ferrari-Perez, Proc. U. S. Nat. Mus., vol. 9, 1886, p. 189.

Toluca lineata acuta Taylor and Smith, Univ. Kansas Sci. Bull., vol. 28, 1942, pp. 346–348, figs. 7, 12 (map), pl. 33, figs. 1–6.

Type.—U.S.N.M. No. 30552.

Type locality.—"Tuchitan [=Juchitan] on the Pacific side of the Isthmus of Tehuantepec," in error.

Range.—The deserts of southern Puebla and probably northern Oaxaca (recorded only from the state of Puebla).

TOLUCA LINEATA VARIANS (Jan)

Oxyrhina varians Jan, Arch. Zool. Anat. Fis., vol. 2, 1862, pp. 54, 60–61, 75.

Toluca lineata varians Taylor and Smith, Univ. Kans Sci. Bull., vol. 28, 1943, pp. 348–350, figs. 9, 10, 12 (map), pl. 31, figs. 2, 3, pl. 32, fig. 1, pl. 34, fig. 3, pl. 35, fig. 2.—Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 487–489, figs. 14–15 (graphs).

Chionactis diasii Cope, *in* Ferrari-Perez, Proc. U. S. Nat. Mus., vol. 9, 1886, pp. 188–189 (type locality, Puebla, Puebla; a paratype, U. S. N. M. No. 31362).

Type.—Milan Mus.

Type locality.—Mexico.

Range.—The mountains of central Veracruz and adjacent Puebla (recorded only from these two states).

TOLUCA LINEATA WETMOREI Smith

Toluca lineata wetmorei Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 489–492.

Type.—U.S.N.M. No. 110727.

Type locality.—Pan de Olla, Veracruz (near Teziutlán, Puebla).

Range.—Extreme northeastern Puebla and adjacent Veracruz (recorded only from these two states).

TOLUCA MEGALODON Taylor and Smith

Toluca megalodon Taylor and Smith, Univ. Kansas Sci. Bull., vol. 28, 1942, pp. 338–340, pl. 30, fig. 1, pl. 35, fig. 1, text figs. 4, 12 (map).

Type.—E. H. Taylor-H. M. Smith Coll. No. 23640.

Type locality.—Summit of Cerro San Felipe, Oaxaca.

Range.—Known only from the type locality.

Genus TRETANORHINUS Duméril, Bibron, and Duméril

Tretanorhinus Duméril, Bibron, and Duméril, Erpétologie génerale, vol. 7, pt. 1, 1854, pp. 348–349.—Dunn, Copeia, 1939, No. 4, pp. 212–217 (review of mainland species).

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[68] Veracruz intergrades between *l. lineata* and *l. wetmorei* are referred to the latter race.

Genotype.—*Tretanorhinus variabilis* Duméril, Bibron, and Duméril.

Range.—Extreme southern Mexico to Colombia and Ecuador, Cuba, Isla de Pinos, and Caymans.

Species.—Three species (one with two races) are recognized in Central and South America; four others occur in the West Indies. One occurs in Mexico.

TRETANORHINUS NIGROLUTEUS LATERALIS Bocourt[69]

Tretanorhinus lateralis BOCOURT, Le Naturaliste, ser. 2, No. 101, 1891, p. 122.

Tretanorhinus nigroluteus lateralis DUNN, Copeia, 1939, No. 4, p. 216.

Type.—Mus. Hist. Nat. Paris.

Type locality.—Belize.

Range.—Known only from the type locality, Petén (Guatemala), and Pacaitun, Río Candelaria, *Campeche.*

Genus TRIMORPHODON Cope

Trimorphodon COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861, p. 297.—TAYLOR, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 357–383, fig. 1, pls. 35–36, 38.—SMITH, Proc. U. S. Nat. Mus., vol. 91, 1941, pp. 149–168, figs. 37–38.

Eteirodipsas JAN, Elenco sistematico degli Ofidi, 1863, p. 105 (type, *Dipsas biscutata* Duméril, Bibron, and Duméril).

Genotype.—*Lycodon lyrophanes* Cope.

Range.—Southern California to western Texas, south on the Pacific coast and on the central plateau of Mexico, reaching Costa Rica.

Species.—Fourteen species and subspecies are recognizable; the only extralimital form is *T. biscutatus quadruplex.*

KEY TO MEXICAN FORMS OF TRIMORPHODON

1. Large V-shaped marks on head and nape ------ 2
   No such marks; a transverse nuchal collar (or whole neck light, as in *vilkinsonii*) ------ 6

2. Anal entire ------ vandenburghi
   Anal divided ------ 3

3. Light V-shaped mark, which involves parietals, not confluent posterolaterally with light color (or white) of ventral surface, but cut off by continuation posteriorly of black band that on the head precedes the light band ------ lyrophanes
   Light mark extending posterolaterally direct to ventral surface, or at least not cut off laterally by preceding dark band ------ 4

4. Ventrals less than 245; blotches on body relatively numerous (maximum 34), about as broad as long, not connected laterally in pairs (nor such a connection indicated) ------ lambda
   Ventrals more than 245; blotches on body numerous or few, but if the former, connected laterally in pairs (or such a connection indicated) ------ 5

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[69] Jan's *Tretanorhinus variabilis adnexus* (Elenco sistematico degli Ofidi, 1863, p. 67), said to be from "Mexico," is based upon a specimen of a species known otherwise only from Cuba; the locality cited obviously is erroneous.

5. Blotches more than twice as long as interspaces; no evidence middorsally of secondary bands or blotches ---------- paucimaculatus
Blotches less than twice as long as spaces between; usually secondary bands or blotches present middorsally on some part of body ---------- 12

6. Anterior dorsal blotch covering 15 or more scale lengths on middorsal line, involving 7 or more ventrals; blotches usually gray or black ---------- 7
Anterior dorsal blotch covering 13 or fewer scale lengths middorsally, involving fewer than 7 ventrals ---------- 8

7. Blotches little narrower laterally than dorsally, much broader on belly than interspaces ---------- fasciolata
Blotches much narrower laterally than dorsally, on belly equal to or narrower than white interspaces ---------- latifascia

8. Blotches very narrow, a third length of interspaces; anterior border of first dorsal blotch 9 or 10 scales behind parietals ---------- vilkinsonii
Blotches broader, little if any narrower than spaces between; anterior border of first dorsal blotch farther forward, not more than six scales behind parietals ---------- 9

9. Fifth and sixth labials entering orbit; anterior loreal split, an upper and lower; tail white, unmarked, below ---------- forbesi
Fourth and fifth labials entering orbit; anterior loreal single; tail marked below or not ---------- 10

10. Bands on body 16 ---------- collaris
Bands on body 22 or more ---------- 11

11. A roughly Y-shaped mark on parietals, the arms forking just behind frontal, the mark usually enclosed by dark color posteriorly; belly with some, subcaudal surface with numerous dark marks; blotches on body 23 to 32 ---------- upsilon
No similar mark on head; dark color of head sharply truncate near posterior edge of parietals, with a narrow or broad, light indentation along parietal suture ---------- tau

12. Total of ventrals plus caudals 358 to 376 ---------- biscutatus semirutus
Total of ventrals plus caudals 341 to 359 ---------- biscutatus biscutatus

TRIMORPHODON BISCUTATUS BISCUTATUS (Duméril, Bibron, and Duméril)

Dipsas biscutata Duméril, Bibron, and Duméril, Erpétologie générale, vol. 7, pt. 2, 1854, pp. 1153–1154.

Trimorphodon biscutatus biscutatus Smith, Proc. U. S. Nat. Mus., vol. 91, 1941, pp. 159–160, map fig. 38.

Trimorphodon major Cope, Proc. Amer. Philos. Soc., vol. 11, 1869, p. 153 (type locality, Tehuantepec; type, U.S.N.M. Nos. 3042–9, three cotypes).

Type.—Mus. Hist. Nat. Paris.

Type locality.—Mexico.

Range.—The Pacific slopes of western Chiapas, westward and northward to Morelos (known from the states of Chiapas, Morelos, and Oaxaca; records from Guanajuato seem very doubtful.)

TRIMORPHODON BISCUTATUS SEMIRUTUS Smith

Trimorphodon biscutatus semirutus Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 492–493.

Type.—U.S.N.M. No. 110410.

Type locality.—Acapulco, Guerrero.

Range.—Pacific slopes from Guerrero northward to Colima (recorded from the states of Guerrero, Michoacán, and Colima).

TRIMORPHODON COLLARIS Cope

Trimorphodon collaris Cope, Journ. Acad. Nat. Sci. Philadelphia, ser. 2, vol. 8, 1876, p. 131.—Smith, Proc. U. S. Nat. Mus., vol. 91, 1941, pp. 165–166, map fig. 38.

Trimorphodon upsilon collaris Mocquard, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 16, 1908, pl. 74, fig. 2 (?).

Type.—U.S.N.M. No. 26499.

Type locality.—Tuxpango, near Orizaba, Veracruz.

Range.—Known only from the type locality.

TRIMORPHODON FASCIOLATA Smith

Trimorphodon fasciolata Smith, Proc. U. S. Nat. Mus., vol. 91, 1941, pp. 160–162, map fig. 38.

Type.—U.S.N.M. No. 110400.

Type locality.—Zararacua Falls, Uruapan, Michoacán.

Range.—Known only from the type locality and Apatzingán, *Michoacán.* Probably ranges from Nayarit to eastern Michoacán.

TRIMORPHODON FORBESI Smith

Trimorphodon forbesi Smith, Proc. U. S. Nat. Mus., vol. 91, 1941, pp. 163–165, map fig. 38.

Type.—U.S.N.M. No. 110402.

Type locality.—San Diego, Tehuacán, Puebla.

Range.—Known only from the type locality but probably occurs throughout most of the upper basin of the Río Balsas in extreme southern Puebla and northern Oaxaca.

TRIMORPHODON LAMBDA Cope

Trimorphodon lambda Cope, Proc. Amer. Philos. Soc., vol. 23, 1886, pp. 286–287.—Taylor, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 360–361, pl. 35, fig. 4.—Smith, Proc. U. S. Nat. Mus., vol. 91, 1941, pp. 155–156, map fig. 38.

Type.—U.S.N.M. No. 13487.

Type locality.—Guaymas, Sonora.

Range.—Sonora northward to southern Nevada, eastern California, and southwestern Utah (known in Mexico only from the state of Sonora).

TRIMORPHODON LATIFASCIA Peters

Trimorphodon biscutata latifascia Peters, Monatsb. Akad. Wiss. Berlin, 1869, p. 877.

Trimorphodon latifascia Taylor, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 364–365, pl. 36, fig. 2; vol. 26, 1939 (1940), p. 479, pl. 52.—Smith, Proc. U. S. Nat. Mus., vol. 91, 1941, p. 160, map fig. 38.

Type.—Berlin Mus.

Type locality.—Puebla.

Range.—Morelos and southeastern Puebla.

TRIMORPHODON LYROPHANES (Cope)

Lycodon lyrophanes Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 343.

Trimorphodon lyrophanes Cope, *ibid.*, vol. 13, 1861, p. 297.—Klauber, Trans. San Diego Soc. Nat. Hist., vol. 9, 1940, pp. 181–187 (part), pl. 7, fig. 2.—Smith, Proc. U. S. Nat. Mus., vol. 91, 1941, pp. 156–157, map fig. 38.

Type.—U.S.N.M. No. 4080.

Type locality.—Cape San Lucas, Baja California.

Range.—Southern half of Baja California.

TRIMORPHODON PAUCIMACULATUS Taylor

Trimorphodon paucimaculatus Taylor, Univ. Kansas Sci. Bull., vol. 24, 1936 (1938), pp. 527–529, pl. 46, fig. 1; vol. 25, 1938 (1939), p. 360, pl. 35, fig. 3.—Smith, Proc. U. S. Nat. Mus., vol. 91, 1941, p. 155, map fig. 38.

Type.—E. H. Taylor-H. M. Smith Coll. No. 4570.

Type locality.—Mazatlán, Sinaloa.

Range.—Central Sinaloa south to Nayarit (known from *Nayarit* and *Sinaloa;* records of *biscutatus* from Guadalajara, *Jalisco*, may be referable to *paucimaculatus*).

TRIMORPHODON TAU Cope

Trimorphodon tau Cope, Proc. Amer. Philos. Soc., vol. 11, 1869, pp. 151–152.—Taylor, Univ. Kans. Sci. Bull., vol. 26, 1939 (1940), pp. 474–477, fig. 8, pl. 51.—Smith, Proc. U. S. Nat. Mus., vol. 91, 1941, pp. 166–167, map fig. 38.

Type.—U.S.N.M. No. 30338.

Type locality.—Quiotepec, Oaxaca (originally stated "Tehuantepec," by error).

Range.—Central Guerrero, in the Sierra Madre del Sur; central Oaxaca; and the edge of the plateau in central Michoacán (known only from the type locality and San Felipe, *Oaxaca;* near Chilpancingo, *Guerrero;* between Morelia and Hidalgo, *Michoacán;* and possibly "Jalisco" [Mocquard, Bull. Soc. Philom., ser. 9, vol. 1, 1899, p. 157]).

TRIMORPHODON UPSILON Cope

Trimorphodon upsilon Cope, Proc. Amer. Philos. Soc., vol. 11, 1869, pp. 151–152.—Taylor, Univ. Kans. Sci. Bull., vol. 25, 1938 (1939), pp. 365–366, pl. 35, fig. 2.—Smith, Proc. U. S. Nat. Mus., vol. 91, 1941, pp. 162–163, map fig. 38.

Type.—U.S.N.M. No. 31358.

Type locality.—Guadalajara, Jalisco.

Range.—Southern Chihuahua south to central Michoacán, east to central Hidalgo (known from the states of Chihuahua, Durango, Guanajuato, Hidalgo, Jalisco, Michoacán, Nayarit, and Zacatecas).

*TRIMORPHODON VANDENBURGHI Klauber[70]

Trimorphodon vandenburghi KLAUBER, Bull. Zool. Soc. San Diego, No. 1, 1924, p. 17, fig. 3; Trans. San Diego Soc. Nat. Hist., vol. 5, 1928, pp. 187–190, pl. 23; vol. 9, 1940, p. 169, pl. 7, fig. 1.

Type.—Calif. Acad. Sci. No. 58192.

Type locality.—Wildwood Ranch (elev. 1,520 feet), 5 miles southwest of Ramona, San Diego County, Calif.

Range.—"Coastal and desert southern California from Los Angeles County and the Argus Mountains, Inyo County, south to the Mexican border."

TRIMORPHODON VILKINSONII Cope

Trimorphodon vilkinsonii COPE, Proc. Amer. Philos. Soc., vol. 23, 1886, pp. 285–286.—TAYLOR, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 361–363, fig. 1, pl. 38.—SMITH, Proc. U. S. Nat. Mus., vol. 91, 1941, p. 167, map fig. 38.

Type.—U.S.N.M. No. 14268.

Type locality.—Chihuahua.

Range.—Chihuahua to extreme western Texas (recorded in Mexico only from "Chihuahua").

Genus TROPIDODIPSAS Günther[71]

Tropidodipsas GÜNTHER, Catalogue of the snakes in the British Museum, 1858, pp. 180–181.

Galedon JAN, Iconographie générale des ophidiens, livr. 36, 1870, pl. 5, fig. 1 (type, *Galedon annularis* Jan).

Tropidogeophis MÜLLER, Verh. Naturf. Ges. Basel, vol. 6, 1878, pp. 409–411 (type, *Geophis annulatus* Peters).

Dipeltophis COPE, U. S. Nat. Mus. Bull. 32, 1887, p. 58 (type, *Leptognathus albocinctus* Fischer).

Genotype.—*Tropidodipsas fasciata* Günther.

Range.—Colima (Sinaloa?) and central Veracruz southward on both coasts to South America.

Species.—Eleven species are recognized in the genus at present; eight occur in Mexico.[72]

KEY TO MEXICAN FORMS OF TROPIDODIPSAS

1.	Dorsal scales in 15 rows	2
	Dorsal scales in 17 rows	3
2.	Belly mostly black, light only where light rings cross belly; dorsal scales smooth throughout length of body	occidentalis
	Belly mostly light; dorsal scales feebly keeled at least posteriorly	philippii
3.	Dark bands on body very numerous, distinct, 40 or more; dorsal keels relatively prominent	fischeri

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[70] "Although not yet collected in northern Lower California, it unquestionably occurs there, for at several places it has been observed within a mile or so of the border" (Klauber, *loc. cit.*, 1940, p. 169).

[71] See footnote for *Dipsas*, p. 49.

[72] See Species Inquirendae, p. 200.

Dark bands on body less than 30 in known specimens, sometimes broken and indistinct posteriorly; dorsal keels weak---------------------------- 4

4. Head rather elongate; eye larger, its diameter nearly or quite twice its distance from labial border; posterior chin shields nearly or quite half as long as anterior chin shields or longer---------------------------- 7

Head short; eye small, its diameter about equal to its distance from labial border; posterior chin shields very short, about one-fourth length of anterior chin shields, or less---------------------------- 5

5. Ventrals 199; dark body rings 27; dark tail rings 9------------- macdougalli

Ventrals 185 or less, dark body rings 24 or less, dark tail rings 8 or less--- 6

6. Light bands, including nuchal collar, yellow in life; bands very regular, all complete about body and tail, 14 to 18 on body; ventrals 173 in a male, 175 to 181 in 3 females---------------------------- sartorii annulatus

Light body bands red or orange, only nuchal collar yellow in life; bands variable, usually at least some incomplete on ventral surface, 13 to 24 on body; ventrals 176 to 185 in 4 males, 176 to 183 in 5 females---------------------------- sartorii sartorii

7. Ventrals 171 to 176; eye perhaps smaller; posterior chin shields nearly as large as anterior; body not compressed---------------------------- fasciata

Ventrals 184 to 198; eye larger, its diameter fully twice its distance from labial border; posterior chin shields about half size of anterior; body somewhat compressed---------------------------- guerreroensis

TROPIDODIPSAS FASCIATA Günther

Tropidodipsas fasciata Günther, Catalogue of the snakes in the British Museum, 1858, p. 181 (part); Biologia Centrali-Americana, Rept., 1894, p. 139, pl. 50, fig. B (in color).[73]—Stuart, Proc. Biol. Soc. Washington, vol. 55, 1942, pp. 178–179.—Smith, Journ. Washington Acad. Sci., vol. 33, 1943, p. 373.

Leptognathus fasciatus Sumichrast, Bull. Soc. Zool. France, vol. 5, 1880, p. 184.—Cope, U. S. Nat. Mus. Bull., 32, 1887, p. 67.

Leptognathus subannulatus Müller, Verh. Nat. Ges. Basel, vol. 8, 1887, pp. 274–275, pl. 1, fig. 5 (type locality, Mexico; type in Basel Mus.).

Cochliophagus tornieri Müller, Mitt. Zool. Mus. Berlin, vol. 11, 1923, p. 92 (type locality, "South America" [in error?]; type, Berlin Mus. No. 8162).—Amaral, Mem. Inst. Butantan, vol. 4, 1929, p. 32.

Type.—Brit. Mus. Nat. Hist., five cotypes only three of which belong to this species (Boulenger, Catalogue of the snakes in the British Museum, vol. 2, 1894, pp. 295, 297).

Type locality.—Mexico.

Range.—The only definite localities known are Chichen Itzá and Yohdzonot, *Yucatán;* other records, from Córdoba, Jicaltepec, and San Andrés Tuxtla, *Veracruz*, are possibly valid.

*TROPIDODIPSAS FISCHERI Boulenger

Virginia fasciata Fischer, Jahrb. Hamburg Wiss. Anst., vol. 2, 1885, pp. 95–97 (a homonym of *Tropidodipsas fasciata* Günther, 1858).

Tropidoclonium annulatum Bocourt, Le Naturaliste, ser. 2, No. 126, 1892, p. 132 (type locality, Volcán Atitlán, Guatemala; type in Paris Mus.) (a homonym of *Geophis annulatus* Peters, 1870 [*cf. T. s. annulatus*]).

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[73] The rings shown as red probably should be gray or white.

Tropidodipsas fischeri BOULENGER, Catalogue of the snakes in the British Museum, vol. 2, 1894, p. 296 (substitute name for *V. fasciata* Fischer).

Type.—Two cotypes, one in Stuttgart Mus., one in Brit. Mus. Nat. Hist.

Type locality.—Guatemala.

Range.—Central Guatemala and probably adjacent Chiapas.

TROPIDODIPSAS GUERREROENSIS Taylor

Tropidodipsas fasciata MOCQUARD, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 16, 1908, pp. 872–873, pl. 70, fig. 3 (*nec* Günther).

Tropidodipsas guerreroensis TAYLOR, Univ. Kansas Sci. Bull., vol. 26, 1939 (1940), pp. 470–473, fig. 7, pl. 50.—SMITH, Journ. Washington Acad. Sci., vol. 33, 1943, pp. 372–373.

Type.—E. H. Taylor-H. M. Smith Coll. No. 5518.

Type locality.—Near Buena Vista, Guerrero.

Range.—Known only from the type locality in Guerrero and from Mixtequilla, Santa Efigenia, and Cacoprieto, *Oaxaca* (a record from "Uruapan?" (Dugès, La Naturaleza, ser. 2, vol. 2, 1896, p. 480) may be referable to this species).

TROPIDODIPSAS MACDOUGALLI Smith

Tropidodipsas macdougalli SMITH, Journ. Washington Acad. Sci., vol. 33, 1943, pp. 371–373.

Type.—E. H. Taylor-H. M. Smith Coll. No. 28088.

Type locality.—Tehuantepec, Oaxaca.

Range.—Known only from the type locality.

TROPIDODIPSAS OCCIDENTALIS Oliver

Tropidodipsas occidentala OLIVER, Occ. Pap. Mus. Zool. Univ. Michigan, No. 360, 1937, pp. 20–22.

Type.—Univ. Mich. Mus. Zool. No. 80222.

Type locality.—Comala, Colima.

Range.—Known only from the type locality.

TROPIDODIPSAS PHILIPPII (Jan)

Leptognathus philippii JAN, Elenco sistematico degli Ofidi, 1863, p. 101; Iconographie générale des ophidiens, livr. 37, 1870, pl. 5, fig. 1.

Tropidodipsas philippii BOULENGER, Catalogue of the snakes in the British Museum, vol. 2, 1894, p. 295.—MOCQUARD, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 16, 1908, p. 875, pl. 54, fig. 3.—SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 495–496.

Leptognathus albocinctus FISCHER, Jahrb. Hamburg Wiss. Anst., vol. 2, 1885, pp. 107–109, pl. 4, fig. 9 (type locality unknown ["San Francisco," Calif., by error] [74]) (type in Brit. Mus. Nat. Hist.).

Type.—Hamburg Mus.

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[74] Boulenger (*loc. cit.*) says the type is labeled San Diego, Calif.

Type locality.—Mazatlán, Sinaloa.

Range.—Known definitely only from the type locality and from "Colima."

TROPIDODIPSAS SARTORII SARTORII Cope [75]

Tropidodipsas sartorii Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 15, 1863, p. 100.—Mocquard, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 16, 1908, pp. 873–874, pl. 70, figs. 4, 5.

Tropidodipsas sartorii sartorii Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 494–495.

Leptognathus Dumerili Jan, Elenco sistematico degli Ofidi, 1863, p. 101 (type locality, Mexico; types in Milan, Torino, and Vienna Mus.); Iconographie générale des ophidiens, livr. 37, 1870, pl. 6, fig. 2.

Tropidodipsas dumerilii Günther, Biologia Centrali-Americana, Rept., 1894, p. 140, pl. 50, fig. A (in color; neck ring is yellow instead of red in three live Mexican specimens from Tabasco and Veracruz).

Galedon annularis Jan, Iconographie générale des ophidiens, livr. 36, 1870, pl. 5, fig. 1 (type unknown; type in Milan Mus.).

Leptognathus leucostomus Bocourt, Bull. Soc. Philom. Paris, ser. 7, vol. 8, 1884, p. 138 (type locality, Yucatán; type in Mus. Hist. Nat. Paris).

Leptognathus semicinctus Bocourt, *ibid.*, p. 139 (type locality, Alta Verapaz, Guatemala; type in Paris Mus.).

Leptognathus cucullieeps Müller, Verh. Nat. Ges. Basel, vol. 8, 1887, pp. 273–274, pl. 1, fig. 4 (type locality, Verapaz, Guatemala; type in Basel Mus.).

Type.—Lost.

Type locality.—Mirador, Veracruz.

Range.—Atlantic slopes from central Veracruz into Guatemala, including the Yucatán Peninsula (known in Mexico from several localities in the states of Campeche, San Luis Potosí, Tabasco, Veracruz, and Yucatán).

TROPIDODIPSAS SARTORII ANNULATUS (Peters)

Geophis annulatus Peters, Monatsb. Akad. Wiss. Berlin, 1870, p. 643, pl. 1, fig. 2.

Tropidogeophis annulatus Müller, Verh. Naturf. Ges. Basel., vol. 6, 1878, pp. 409–411.

Tropidodipsas sp. aff. *Tr. Sartorii* Müller, *ibid.*, pp. 612, 687–688.

Tropidodipsas sartorii annulatus Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 495–496.

Leptognathus sexscutatus Bocourt, Bull. Soc. Philom. Paris, ser. 7, vol. 8, 1884, pp. 137–138 (type locality, Atitlán, Guatemala; type in Mus. Hist. Nat. Paris).

Leptognathus Bernoullii Müller, Verh. Naturf. Ges. Basel, vol. 8, 1887, pp. 272–

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[75] It has been impossible to determine definitely which of the two names, *sartorii* or *dumerili*, has priority. Cope's description appeared in the April section of the Proceedings, but apparently it was not published until later; it was received at the Smithsonian Institution July 13, 1863. The foreword to Jan's Elenco was written March 1, 1863, at least a month before Cope's paper was submitted, but the work was not received in this country until October 29, 1863 (Smithsonian Institution), 3½ months after Cope's paper was received. Since transportation was then very slow, and the Elenco may not have been distributed promptly, Jan's work may still be proved to have priority over Cope's. The very incomplete evidence now available, however, favors retention of Cope's name.

273 (type locality, Hacienda de Chitalon, Mazatenango, Guatemala; type in Basle Mus.).

Type.—Berlin Mus.

Type locality.—Unknown.

Range.—Pacific slopes of Chiapas and Guatemala (known in Mexico only from Finca Juárez, near Escuintla, and Chicharras, *Chiapas*).

Genus XENODON Boie

Xenodon Boie, Isis, 1827, p. 540.

Genotype.—*Coluber severus* Linnaeus.

Range.—Central Mexico (coastal) southward to Argentina.

Species.—About seven or eight species are known, only one occurring in Mexico.[76]

XENODON MEXICANUS Smith

Xenodon angustirostris Taylor and Smith (*nec* Peters), Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 242–244, pl. 23, fig. 4.

Xenodon mexicanus Smith, Proc. Biol. Soc. Washington, vol. 53, 1940, pp. 57–59.

Xenodon rabdocephalus mexicanus Schmidt, Publ. Field Mus. Nat. Hist., zool. ser., vol. 22, 1941, p. 501.

Type.—U.S.N.M. No. 108596.

Type locality.—Piedras Negras, Guatemala.

Range.—British Honduras and Petén, Guatemala, northward in the foothills to central Veracruz; on Pacific slopes from central Guerrero presumably to El Salvador (known in Mexico from the states of Chiapas, Guerrero, Tabasco, and Veracruz).

Subfamily NATRICINAE Cope

Natricinae Cope, Trans. Amer. Philos. Soc., vol. 18, 1895, pp. 200, 206–207.

Type.—*Natrix* Laurenti.

Genus ADELOPHIS Dugès

Adelophis Dugès, *in* Cope, Proc. Amer. Philos. Soc., vol. 18, 1879, pp. 265–266.

Genotype.—*Adelophis copei* Dugès.

Range.—Jalisco, Guanajuato, and Morelos.

Species.—One.

ADELOPHIS COPEI Dugès

Adelophis copei Dugès, Proc. Amer. Philos. Soc., vol. 18, 1879, pp. 265–266.—Bocourt, Mission scientifique au Mexique et dans l'Amérique Centrale, Rept., livr. 13, 1893, p. 740, pl. 53, fig. 3 (head scales).—Dunn, Copeia, 1931, No. 4, p. 163.—Taylor, Herpetologica, vol. 2, 1942, pp. 75–77.—Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 394–396.

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[76] *Xenodon bertholdi* Jan (Arch. Zool. Anat. Fis., vol. 2, 1863, pp. 316, 318–319) is said to be from "Mexico," but this is a very different species. The ventral count given is 153, while northern (Mexico and Guatemala) specimens of *X. mexicanus* with reliable locality data show a variation in ventral count from 124 to 136. It may be inferred either that two species, *mexicanus* and *bertholdi*, occur in Mexico or that the locality data for the type of the latter are erroneous. At the present the latter appears the more probable inference. A specimen very much like the type of *X. bertholdi* is known from Esparta, Costa Rica (U.S.N.M. No. 37482).

Type.—Original lost (skull only said to be extant). A neotype in Mus. Alfredo Dugès, Univ. Guanajuato, Mexico.

Type locality.—Guadalajara, Jalisco.

Range.—Jalisco, Guanajuato, and Morelos (known from six localities: Guadalajara, La Cumbre de los Arrastrados, and Magdalena, *Jalisco;* Tupátaro and Guanajuato, *Guanajuato;* and Yautepec, *Morelos*).

Genus NATRIX Laurenti

Natrix Laurenti, Specimen medicum exhibens synopsin reptilium . . ., 1768, p. 73.—Clay, Copeia, 1938, No. 4, pp. 173–182 (keys and brief diagnoses for American species).

Genotype.—*Natrix vulgaris* Laurenti (=*Coluber natrix* Linnaeus).

Range.—Africa, Europe, Asia, Malay Archipelago, northern Australia and adjacent islands; in the Western Hemisphere, southeastern Canada, all of eastern and central United States west to Kansas, and extreme southern portion of the western states; in Mexico, the tip of Baja California, a western area from Durango to Guerrero, and an eastern area from Texas to Guatemala; Cuba.

Species.—Twenty-one species and subspecies in the Americas, of which only four occur in Mexico; about 75 in the Eastern Hemisphere.

KEY TO MEXICAN FORMS OF NATRIX

1. Pattern of large dorsal blotches; lateral blotches reach ventrals ---------- erythrogaster transversa
Pattern of small or indistinct dorsal blotches; lateral blotches reach ventrals or not ---------- 2
2. Scale rows 19 to 23; no large lateral spots; belly immaculate ---------- valida
Scale rows 25 to 31; large lateral spots; belly immaculate or not ---------- 3
3. Ventrals strongly marked with semilunar dark spots; dorsal color pattern usually distinct ---------- rhombifera rhombifera
Ventrals nearly or quite immaculate; dorsal pattern obscure
rhombifera blanchardi

NATRIX ERYTHROGASTER TRANSVERSA (Hallowell)

Tropidonotus transversus Hallowell, Proc. Acad. Nat. Sci. Philadelphia, vol. 6, 1852, p. 177.

Natrix erythrogaster transversa Taylor, Univ. Kansas Sci. Bull., vol. 19, 1929 (1930), p. 58.—Parker, Journ. Tennessee Acad. Sci., vol. 12, 1937, p. 76, fig. 9A.

Nerodia Couchii Kennicott, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 335 (San Diego and Santa Catarina, Nuevo León; cotypes, U.S.N.M. Nos. 1314, 1319).

Type.—Acad. Nat. Sci. Phila. No. 5044.

Type locality.—Boundary of Creek Nation, near the banks of the Arkansas and its tributaries.

Range.—Western Missouri and eastern Kansas through western Oklahoma to southeastern New Mexico, east to Fort Worth and Houston, Tex., and south to central Nuevo León, and Coahuila (known from several localities in Coahuila, Nuevo León, and Tamaulipas).

NATRIX RHOMBIFERA RHOMBIFERA (Hallowell)

Tropidonotus rhombifera HALLOWELL, Proc. Acad. Nat. Sci. Philadelphia, vol. 6, 1852, p. 177.

Natrix rhombifera rhombifera CLAY, Ann. Carnegie Mus., vol. 27, 1938, pp. 251–253; Copeia, 1938, no. 4, p. 177.—DITMARS, Field book of North American snakes, 1939, p. 220, pl. 15 (two upper figs.).—SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 454–455.

Type.—Acad. Nat. Sci. Phila. No. 5047.

Type locality.—Arkansas River and its tributaries near the northern boundary of the Creek Nation.

Range.—Southern Illinois and Indiana south through Alabama and central Texas, reaching central Tamaulipas; southern Veracruz to extreme eastern Tabasco and southwestern Campeche, possibly also Guatemala; not in the Yucatán Peninsula, southern Tamaulipas, or the northern and central portions of Veracruz (known from *Coahuila*, *Nuevo León*, and from Emiliano Zapata, Macuspana, and Tepetitán, *Tabasco;* probably occurs in northern Tamaulipas and southern Veracruz, but no records are available).

NATRIX RHOMBIFERA BLANCHARDI Clay

Natrix rhombifera blanchardi CLAY, Ann. Carnegie Mus., vol. 27, 1938, pp. 251–253, pl. 25.—SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 455.

Type.—Carnegie Mus. No. 9512.

Type locality.—Vicinity (within 85 miles) of Tampico, Tamaulipas.

Range.—Atlantic coast south from central Tamaulipas through southeastern San Luis Potosí, to south-central Veracruz (recorded from extreme southeastern Nuevo León, San Luis Potosí, Tamaulipas, and Veracruz).

NATRIX VALIDA (Kennicott)

Regina valida KENNICOTT, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, pp. 334–335.

Natrix valida COPE. Proc. U. S. Nat. Mus., vol. 14, 1892 p. 670.—TAYLOR, Univ. Kansas Sci. Bull., vol. 26, 1939 (1940), pp. 448–450, fig. 3.

Tropidonotus tephropleura COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, pp. 341–342 (type locality, Cape San Lucas, Baja California; type, originally U.S.N.M. No. 4681).

Tropidonotus celaeno COPE, Proc. Acad. Nat. Sci. Philadelphia, 1860, p. 341 (type locality, Cape San Lucas, Baja California; type, originally U.S.N.M. No. 341).

Tropidonotus quadriserialis Fischer, Verh. Nat. Ver. Hamburg, ser. 2, vol. 3, 1879, p. 82, pl. 1, fig. 2 (type locality, Mazatlán, Sinaloa; type in Hamburg Mus.?).—Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 13, 1893, pp. 752–753, pl. 54, fig. 6.

Type.—U.S.N.M. No. 1309.

Type locality.—Durango.

Range.—Discontinuous; Cape region of Baja California, and Pacific slopes of western Mexico from Durango through Colima to central southern Guerrero (recorded from several localities in the states of Baja California, Colima, Durango, Guerrero, Nayarit, and Sinaloa).[77]

Genus STORERIA Baird and Girard

Storeria Baird and Girard, Catalogue of North American reptiles, 1853, pp. 135–136.

Ischnognathus Duméril and Bibron, Mem. Acad. Inst. France, vol. 23, 1853, p. 468 (type, *T. dekayi* Holbrook).

Hemigenius Dugès, La Naturaleza, ser. 2, vol. 1, 1890, p. 403.

Genotype.—*Tropidonotus dekayi* Holbrook.

Range.—Eastern North America from Ontario to Guatemala, west to North Dakota, Texas, and across the southern portion of the Mexican plateau to Michoacán, and perhaps Jalisco.

Species.—Five species and subspecies are recognized at present in Mexico; extralimital are *tropica* of Guatemala and *victa* and a number of races of *dekayi* in the United States.

KEY TO MEXICAN FORMS OF STORERIA

1. Scales in 15 rows ---------- 3
Scales in 17 rows; no loreal ---------- 2
2. Generally 3 pairs of chin shields ---------- dekayi anomala
Generally 2 pairs of chin shields ---------- 2a
2a. Anterior temporal with a horizontal dark mark ---------- dekayi temporalineata
Anterior temporal not marked with black, or with black only along margin ---------- dekayi texana
3. A loreal; generally 7 supralabials ---------- storerioides
No loreal; generally 6 supralabials ---------- hidalgoensis

STORERIA DEKAYI ANOMALA Dugès

Storeria dekayi anomala Dugès, Proc. U. S. Nat. Mus., vol. 11, 1888, pp. 9–10, fig.—Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 473.

Type.—Mus. Alfredo Dugès, Univ. Guanajuato, Mexico.

Type locality.—Orizaba, Veracruz.

Range.—Foothills of central Veracruz.

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[77] Dunkle and Smith (Occ. Pap. Mus. Zool. Univ. Michigan, No. 363, 1937, pp. 3–4) erroneously record this species from Río San Pedro, Chihuahua, a locality far removed from others where the form is known. We are indebted to Roger Conant for the discovery that the record is based upon a *Thamnophis rufipunctatus*.

STORERIA DEKAYI TEMPORALINEATA Trapido

Storeria dekayi temporalineata TRAPIDO, Amer. Midl. Nat., vol. 31, 1944, pp. 70–73, pl. 9, figs. 51, 52.

Type.—U.S.N.M. No. 32148.

Type locality.—San Rafael, Jicaltepec, Veracruz.

Range.—Coastal plains, known in typical form only from Veracruz but probably extending northward through Tamaulipas and perhaps southward to Guatemala (recorded from Jalapa, Veracruz, La Palmilla, and the type locality, in *Veracruz;* and Necaxa, *Puebla.* A record from Puebla, *Puebla*, is very dubious. Intergrades with *d. texana* are known from Matamoros, *Tamaulipas*, and Valles, *San Luis Potosí*).

STORERIA DEKAYI TEXANA Trapido

Storeria dekayi texana TRAPIDO, Amer. Midl. Nat., vol. 31, 1944, pp. 63–70, figs. 45–50.

Type.—Cornell Univ. No. 3530.

Type locality.—Edge Falls, 4 miles south of Kendalia, Kendall County, Tex.

Range.—In Mexico in foothills from Hidalgo northward; Texas north to Minnesota, east of the 100th meridian and eastward to near the eastern borders of Texas, Oklahoma, Kansas, and Iowa (recorded in Mexico from Tianguistengo, *Hidalgo;* Valles, *San Luis Potosí;* Matamoros, *Tamaulipas;* and Horsetail Falls, *Nuevo León*).

STORERIA HIDALGOENSIS Taylor

Storeria hidalgoensis TAYLOR, Herpetologica, vol. 2, 1942, pp. 78–79.

Type.—E. H. Taylor-H. M. Smith Coll. No. 16145.

Type locality.—Zacualtipán, Hidalgo.

Range.—Eastern and southern-central parts of the central plateau, from central Nuevo León southward to central Hidalgo, westward to Guanajuato, and perhaps to Guadalajara (recorded from the states of Guanajuato, Hidalgo, Jalisco, Nuevo León, and San Luis Potosí).

STORERIA STORERIOIDES (Cope)

Tropidoclonium storerioides COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 17, 1865, pp. 190–191.

Storeria storerioides GARMAN, Mem. Mus. Comp. Zool., vol. 8, No. 3, 1883, p. 29.—TAYLOR and SMITH, Univ. Kansas Sci. Bull., vol. 25, 1938 (1939), pp. 249–251, fig. 3 (head only).—SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 473.

Hemigenius variabilis DUGÈS, Proc. Amer. Philos. Soc., vol. 25, 1888, pp. 182–183, fig. 2 (type locality, Guanajuato; type in Mus. Alfredo Dugès, Univ. Guanajuato, Mexico).

Type.—U.S.N.M. Nos. 24987–90, four cotypes.

Type locality.—"Mexican plateau between the eastern range and the Valley of Mexico."

Range.—Southern portion of the central plateau, from southern San Luis Potosí south to central Puebla, and west to Jalisco; also the Sierra Madre del Sur, Guerrero (recorded from numerous localities in the states of Durango, Guerrero, Guanajuato, Jalisco, México, Morelos, Puebla, and San Luis Potosí, and from Distrito Federal).

Genus THAMNOPHIS Fitzinger

Thamnophis Fitzinger, Systema reptilium, 1843, p. 26.—Smith, Zoologica, vol. 27, 1942, pp. 97–123 (brief notes on Mexican species).

Prymnomiodon Cope, Proc. Acad. Nat. Sci. Philadelphia, 1860, p. 558 (type, *P. chalceus* Cope).

Chilopoma Cope, in Yarrow, Wheeler's Rep. Geogr. Geol. Expl. Surv. W. 100th Mer., vol. 5, Zool., 1875, p. 543 (type, *C. rufipunctatum* Cope).

Atomarchus Cope, Amer. Nat., vol. 17, 1883, p. 1300 (type, *A. multimaculatus* Cope).

Stypocemus Cope, Proc. Amer. Philos. Soc., vol. 22, 1884 (1885), p. 387 (substitute name for *Chilopoma*, preoccupied; type, *C. rufipunctatum* Cope).

Genotype.—*Coluber saurita* Linnaeus.

Range.—Southern Canada to Costa Rica.

Species.—About 46 species and subspecies, 29 in Mexico.

KEY TO MEXICAN AND CENTRAL AMERICAN FORMS OF THAMNOPHIS

1. Lateral stripe involving third and fourth scale rows on anterior part of body 2
Lateral stripe not involving fourth row, or indistinct, absent, or involving only the second or third row or both 5

2. Scale rows 21 at middle or on anterior third of body; anterior edges of ventrals black .... macrostemma 3
Scale rows 19, maximum (except immediately behind head) 4

3. Caudals 78 or less in males, 68 or less in females. macrostemma macrostemma
Caudals 79 or more in males, 69 or more in females .... macrostemma megalops

4. Caudals 93 to 104, ventrals 155 to 169, totals 255 to 262 in females; 102 to 109, 158 to 172, and 260 to 277, respectively, in males .... sauritus proximus
Caudals 83 to 96, ventrals 142 to 159, totals 229 to 254 in females; 92 to 99, 149 to 158, 245 to 256, respectively, in males .... sauritus chalceus

5. Scale rows 21 or more on anterior third of body 6
Scale rows less than 21 14

6. Preoculars two or more; one or two labials entering orbit 7
Preocular single; usually two labials entering orbit 9

7. One labial entering orbit (rarely 2) .... rufipunctatus
Two labials entering orbit 8

8. No stripes; nearly uniform grayish olive above ---- digueti
   Lateral light stripes conspicuous; dorsal dark spots distinct, a black crescentic neck mark ---- hammondii
9. Usually anterior edges of ventrals black, and the entire belly clouded, but never a longitudinal dark line or entire belly black; chin and sometimes subcaudal surface cream, sharply differentiated from dark belly color ---- 3
   Not so; belly unmarked or with a longitudinal dark line, or nearly entirely black, or with scattered dark spots; chin and subcaudal surfaces not sharply differentiated from dark color of belly ---- 10
10. Belly almost completely black (or perhaps a midventral black stripe); lateral light stripe not restricted to third row anteriorly ---- angustirostris
    Belly not with a median, more or less extensive black stripe; lateral stripe restricted to third row or not ---- 11
11. Lateral stripe, when evident, restricted to third row anteriorly ---- 12
    Lateral stripe always well defined, on second and third rows ---- 13
12. Vertebral light stripe one and two half scale rows wide, at least at base of tail ---- marciana
    Vertebral light stripe one scale row wide, or nearly indistinguishable, even at base of tail ---- ruthveni
13. No dorsal stripe; scale rows at middle of body usually 21 ---- hammondii
    A dorsal stripe; scale rows at middle of body generally 19 (an anterior pair usually dropping before reaching midbody) ---- ordinoides hueyi
14. Preoculars two or more, rarely one; belly usually with a continuous, longitudinal black area on center; scale rows 19 on anterior third of body ---- 15
    Preoculars single; belly not with a continuous black area (or if so, scale rows no more than 17) ---- 16
15. Black on belly and tail very extensive, covering nearly all of ventral surface; vertebral and lateral light stripes evident in all except large specimens; second labial generally (81 percent) in contact with rostral; postoculars usually (75 percent) 3–3 or more; caudals usually 64 or less (84 percent) in males, 54 or less (73 percent) in females ---- melanogaster melanogaster
    Black on belly and tail entirely absent or restricted to a midventral line or a few scattered spots; rarely light lines evident, never the middorsal; second labial usually not (78 percent) in contact with rostral; postoculars usually (72 percent) 2–2 or 2–3; caudals usually over 64 (69 percent) in males, 55 (84 percent) in females ---- melanogaster canescens
16. Maximum dorsal scale rows 17, *and* no evidence whatever of a middorsal stripe on any part of body ---- chrysocephalus
    Dorsal scale rows more than 17, or if only 17, a vertebral light stripe present or indicated on some parts of body ---- 17
17. A pair of white or light parietal spots, bordered laterally by a moderately dark area in middle of each parietal, which is sometimes fused with nuchal blotches, and is darker than most of remainder of dorsal surface of head (light); at least a black border about parietal spots ---- 18
    No marks on center of parietals; head nearly uniform light or dark above ---- 19
18. Large spots present on body, usually a single series extending completely across back ---- phenax phenax
    Spots on body (except on neck) poorly defined or absent ---- phenax halophilus

19. The spots in the two rows on each side, between the vertebral and lateral stripes, fused together over most of body (not just on neck)------ 21

The spots in the two rows on each side, between the vertebral and lateral stripes, not fused together except on neck; spots disappearing posteriorly or not------ 20

20. Scale rows anteriorly 17------ 21

Scale rows anteriorly 19------ 23

21. Dark color of dorsal surface of head and nape with a clearly defined dark-edged indentation a little posterior to angle of mouth, extending anterodorsally toward midoccipital region; scale rows usually 19 on some part of body; spots usually distinct on most of body------ 22

Dark color of dorsal surface of head and nape lacking any clearly defined, dark-edged light indentation behind angle of mouth; scale rows seldom over 17 on any part of body; no spots distinct on body posterior to nape, dorsum nearly uniform brown------ scalaris godmani

22. Scale rows posteriorly usually 17 (94 percent); anterior scale rows usually 19 (88 percent)------ scalaris scaliger

Posterior scale rows usually less than 17 (70 percent); anterior scale rows usually less than 19 (93 percent)------ scalaris scalaris

23. Spots in upper row of the two series between vertebral and lateral light lines fused together and usually with the spots in the outer row, the latter spots remaining distinct from each other; ground color red between spots of outer row (above lateral stripe); middorsal stripe well-defined------ sirtalis parietalis

Spots not fused in such a manner, although sometimes poorly defined or corresponding spots of the two rows fused together; ground color not red; middorsal stripe distinct or not------ 24

24. Middorsal stripe with continuous, straight edges, covering one and two half scale rows; rounded dark spots on anterior edges of ventrals on sides of at least part of belly; ventrals seldom over 157, caudals seldom over 76------ 25

Middorsal stripe usually covering only the vertebral row, or indistinct, or absent; if broader, not straight edged and ventrals and caudals more numerous; belly not spotted------ 26

25. Supralabials strongly barred; head dark above, the color fused with that of nape; ventrals 136 to 140------ sumichrasti praeocularis

Supralabials not or weakly barred; head light above, its color sharply differentiated from that of nape; ventrals 144 to 167.
sumichrasti cerebrosus

26. No median light stripe on any part of body, its place occupied by a median series of dark spots------ 31

A median light stripe at least anteriorly; no median series of dark spots-- 27

27. A very distinct median light stripe throughout length of body; *and* dark spots present on the scales below the lateral light line at least anteriorly, visible without spreading the scales; ventrals seldom less than 149------ 28

Median light stripe indistinct or absent posteriorly; or, if distinct posteriorly, no dark spots on the scales below the lateral light line------ 29

28. Ventrals 167 or more in males, 163 or more in females---- eques cyrtopsis

Ventrals 166 or less in males, 162 or less in females------ eques eques

29. Ventrals 155 to 166------ ordinoides errans

Ventrals fewer, 136 to 153------ 30

30. Median light stripe scarcely distinguishable on any part of body, and nowhere more than one scale row wide________________ eques postremus

Median light stripe covering one and one half to three scale rows anteriorly, but disappearing completely on posterior part of body____ sumichrasti fulvus

31. Ventrals 139 to 157 in males, in females 139 to 147; caudals 58 to 72_______________________________________ sumichrasti sumichrasti

Ventrals 155 to 162 in males, 149 to 156 in females; caudals 78 to 89____ vicinus

THAMNOPHIS ANGUSTIROSTRIS (Kennicott)[78]

Eutaenia angustirostris KENNICOTT, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, pp. 332–333.

Thamnophis angustirostris RUTHVEN, U. S. Nat. Mus. Bull. 61, 1908, pp. 120–124 (part).—SMITH, Zoologica, vol. 27, 1942, pp. 120–121.

Type.—U.S.N.M. No. 959.

Type locality.—Parras, Coahuila.

Range.—Known only from the type locality.

THAMNOPHIS CHRYSOCEPHALUS (Cope)

Eutaenia chrysocephalus COPE, Proc. Amer. Philos. Soc., vol. 22, 1884 (1885), pp. 173–174.

Thamnophis chrysocephalus SMITH, Zoologica, vol. 27, 1942, p. 104; Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 478–479.

Thamnophis eburatus TAYLOR, Herpetologica, vol. 1, 1940, pp. 187–189, pl. 19, text fig. 2 (type locality, Cerro San Felipe, Oaxaca; type, E. H. Taylor-H. M. Smith Coll. No. 556).

Type.—U.S.N.M. No. 30494.

Type locality.—Orizaba.

Range.—Mountains of south-central Veracruz southward through central Oaxaca and westward along the Sierra Madre del Sur, central Guerrero (known from the states of Guerrero, Oaxaca, Puebla, and Veracruz).

THAMNOPHIS DIGUETI (Mocquard)[79]

Tropidonotus Digueti MOCQUARD, Nouv. Arch. Mus. Hist. Nat. Paris, ser. 4, vol. 1, 1899, pp. 327–329.

Thamnophis digueti FITCH, Univ. California Publ. Zool., vol. 44, No. 1, 1940, pp. 81–83, pl. 7, fig. 9 (head only).

Type.—Mus. Hist. Nat. Paris.

Type locality.—Restricted to San Ignacio, Baja California (included Mulegé, Baja California).

Range.—Sierra de la Giganta, southern half of Baja California.

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[78] The type, the only known specimen, probably represents a distinct species, but it may be a hybrid between *rufipunctatus* and *melanogaster*.

[79] We tentatively accept Fitch's arrangement of the various members of the *ordinoides* group, admitting the existence of contrary views (see Ernst Mayr, Systematics and the origin of species, 1942, pp. 133–134).

THAMNOPHIS EQUES EQUES (Reuss)

Coluber eques Reuss, Zool. Misc., 1834, pp. 152–155, pl. 8, fig. 2.

Thamnophis eques eques Gloyd and Smith, Bull. Chicago Acad. Sci., vol. 6, 1942, p. 234.—Smith, Zoologica, vol. 27, 1942, pp. 106–108.

Thamnophis cyrtopsis cyclides Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861, pp. 229–230 (type locality unknown, "Cape St. Lucas"; type, U.S.N.M. No. 5023).

Eutaenia pulchrilatus Cope, Proc. Amer. Philos. Soc., vol. 22, 1884 (1885), p. 174 (type locality, Guanajuato; type, U.S.N.M. No. 9899).

Type.—Senckenberg Mus. No. 7209.

Type locality.—Mexico.

Range.—Southern Sinaloa and central Durango southward to the edge of the plateau in Michoacán, west to Hidalgo and central Veracruz; highlands of central Oaxaca and the Sierra Madre del Sur in central Guerrero (known from the states of Durango, Guanajuato, Guerrero, Hildalgo, Jalisco, México, Michoacán, Morelos, Oaxaca, Puebla, Sinaloa, Veracruz, Zacatecas, and from Distrito Federal).

THAMNOPHIS EQUES CYRTOPSIS (Kennicott)

Eutaenia cyrtopsis Kennicott, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, pp. 333–334.

Thamnophis eques cyrtopsis Gloyd and Smith, Bull. Chicago Acad. Sci., vol. 6, 1942, p. 234.—Smith, Zoologica, vol. 27, 1942, p. 108.

Eutaenia eques Ditmars, Reptile book, 1907, p. 230, pl. 66, fig. 8, and pl. 71, fig. 1.

Thamnophis eques Schmidt and Davis, Field book of snakes, 1941, pp. 240–241, fig. 78 (head and neck only).

Type.—U.S.N.M. No. 8067.

Type locality.—Rinconada, Coahuila.

Range.—Utah and Arizona southward through Sonora (except extreme western part) and central Coahuila to northern Durango and southern San Luis Potosí; southward along the Sierra Madre Occidental to northern Nayarit (recorded in Mexico from the states of Chihuahua, Coahuila, Durango, Nayarit, San Luis Potosí, and Sonora).

THAMNOPHIS EQUES POSTREMUS Smith

Thamnophis eques postremus Smith, Zoologica, vol. 27, 1942, pp. 109–110.

Type.—E. H. Taylor-H. M. Smith Coll. No. 5275.

Type locality.—El Sabino, Michoacán.

Range.—Known only from the type locality, Uruapan, and Apatzingán, *Michoacán.*

THAMNOPHIS HAMMONDII (Kennicott)

Eutaenia hammondii Kennicott, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 332.

Thamnophis hammondii VAN DENBURGH, Occ. Pap. California Acad. Sci., vol. 5, 1897, pp. 212-214.—FITCH, Univ. California Publ. Zool., vol. 44, 1940, pp. 73-80, pl. 7, fig. 8 (head only).

Type.—U.S.N.M. No. 894.

Type locality.—Restricted to San Diego, Calif. (included "Fort Tejon" also).

Range.—Coastal slope west of summit of coast range divide, from Monterey Bay, Calif., through Sierra San Pedro Mártir, northern *Baja California.*

THAMNOPHIS MACROSTEMMA MACROSTEMMA (Kennicott)

Eutaenia macrostemma KENNICOTT, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 331.—COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866 (1867), pp. 306-307.

Thamnophis macrostemma macrostemma SMITH, Publ. Field Mus. Nat. Hist., zool. ser., vol. 24, 1939, pp. 29-30; Zoologica, vol. 27, 1942, p. 115.

Thamnophis macrostemma BRUMWELL, Trans. Kansas Acad. Sci., vol. 42, 1939 (1940), pp. 423-429, pl. 1 (part).

Eutaenia flavilabris COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866 (1867), p. 306 (type locality, Tableland or Southern Mountains of Mexico; cotypes, U.S.N.M. Nos. 2499-2).

Eutaenia macrostemma megalops COPE, U. S. Nat. Mus. Bull. 1, 1875, p. 41.

Eutaenia insigniarum COPE, Proc. Amer. Philos. Soc., vol. 22, 1884 (1885), p. 172 (type locality, Chapultepec, Distrito Federal; type, U.S.N.M. No. 32163).

Type.—U.S.N.M. No. 7247.

Type locality.—Mexico (city).

Range.—The southern part of the central Mexican Plateau from Nayarit to Veracruz; northern Oaxaca (known from the states of Jalisco, México, Michoacán, Nayarit, Oaxaca, Puebla, Veracruz, and from Distrito Federal).

THAMNOPHIS MACROSTEMMA MEGALOPS (Kennicott)

Eutaenia megalops KENNICOTT, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, pp. 330-331.

Thamnophis megalops VAN DENBURGH, Occ. Pap. California Acad. Sci., vol. 10, 1922, pp. 852-855, pl. 94.

Thamnophis macrostemma megalops SMITH, Publ. Field Mus. Nat. Hist., zool. ser., vol. 24, 1939, pp. 30-31; Zoologica, vol. 27, 1942, p. 115.

Thamnophis stejnegeri MCLAIN, Contributions to Neotropical herpetology, 1899, pp. 4-5, pl. (type locality, Salamanca, Guanajuato; type, Stanford Univ. Mus. No. 4032).

Type.—U.S.N.M. No. 965.

Type locality.—Tucson, Arizona, and Santa Magdalena, Sonora.

Range.—Mountains and elevated areas from western Texas west to northeastern Baja California, southward along the western edge of the Mexican Plateau to southern Durango; eastward in the central part of the plateau through Guanajuato and southern San Luis

Potosí to western Hidalgo (recorded from the states of Chihuahua, Durango, Guanajuato, Hidalgo, San Luis Potosí, and Sonora).

THAMNOPHIS MARCIANA (Baird and Girard)

Eutaenia marciana Baird and Girard, Catalogue of North American reptiles, 1853, pp. 36–37.

Thamnophis marciana Ruthven, U. S. Nat. Mus. Bull. 61, 1908, pp. 849–852, pl. 93.—Ditmars, Field book of North American snakes, 1939, pl. (three lower figs.).

Type.—U.S.N.M. No. 844, a cotype.

Type locality.—Restricted to Red River, Ark. (included also New Braunfels, near San Antonio, San Pedro, and Indianola, Tex.).

Range.—Kansas, Oklahoma, and central Texas west to southeastern California and probably northwestern Baja California; southward to northeastern Durango and northwestern Tamaulipas (known in Mexico from the states of Chihuahua, Durango, Coahuila, Nuevo León, Sonora, and Tamaulipas; a record from San Luis Potosí [Garman, Bull. Essex Inst., vol. 19, 1887, pp. 7–8] seems very doubtful).

THAMNOPHIS MELANOGASTER MELANOGASTER (Peters)

Tropidonotus melanogaster Peters, Monatsb. Akad. Wiss. Berlin, 1864, pp. 389–390.

Thamnophis melanogaster McLain, Contributions to Neotropical herpetology, 1899, pp. 3–4.

Thamnophis melanogaster melanogaster Smith, Zoologica, vol. 27, 1942, pp. 116–117.

Tropidonotus Baronis Mülleri Troschel, *in* Müller, Reisen in den Vereinigten Staaten, Canada, und Mexico, 1865, pp. 610–611 (type locality, Mexico; type unknown; name invalid because not binominal).

Tropidonotus baronis-mülleri Boulenger, Catalogue of the snakes in the British Museum, vol. 1, 1893, p. 226 (in synonymy; first use of name in proper form; type locality, Plateau of Mexico, near Mexico City; type in Brit. Mus. Nat. Hist.).

Tropidonotus mesomelanus Jan, Arch. Zool. Anat. Fis., vol. 3, 1865, pp. 230–231 (type locality, Mexico; cotypes in Milan, Torino, Paris, Breslau, Vienna Mus., and Westphal Coll.; lectotype in Vienna Mus.[80]).

Type.—Berlin Mus., 2 cotypes.

Type locality.—Mexico.

Range.—Central Mexico east to Distrito Federal and central Veracruz (known from the states of Mexico, Veracruz, and from Distrito Federal).

THAMNOPHIS MELANOGASTER CANESCENS Smith

Thamnophis melanogaster canescens Smith, Zoologica, vol. 27, 1942, pp. 117–120.

Type.—E. H. Taylor-H. M. Smith Coll. No. 5023.

Type locality.—Chapala, Lake Chapala, Jalisco.

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[80] Figured on pl. 5, livr. 27, Iconographie générale des ophidiens, 1868.

Range.—Central Durango southward to the edge of the plateau in central Michoacán, westward to southern San Luis Potosí and perhaps western Mexico (recorded from the states of Colima, Durango, Guanajuato, Jalisco, Michoacán, Nayarit, and San Luis Potosí).

THAMNOPHIS ORDINOIDES ERRANS Smith

Thamnophis ordinoides errans SMITH, Zoologica, vol. 27, 1942, pp. 112–114.

Type.—U.S.N.M. No. 46336.

Type locality.—Colonia García, Chihuahua.

Range.—Mountains of southern Chihuahua and Durango (known only from the type locality and Coyotes, *Durango*).

THAMNOPHIS ORDINOIDES HUEYI Van Denburgh and Slevin

Thamnophis ordinoides hueyi VAN DENBURGH and SLEVIN, Proc. California Acad. Sci., ser. 4, vol. 13, 1923, p. 2.—FITCH, Univ. California Publ. Zool., vol. 44, 1940, pp. 43–46, pl. 4, fig. 5, pl. 7, fig. 4.

Type.—Calif. Acad. Sci. No. 56855.

Type locality.—Arroyo Encantado between La Grulla and La Encantada, Sierra San Pedro Mártir, northern Baja California.

Range.—Sierra San Pedro Mártir, Baja California, confined presumably to high altitudes.

THAMNOPHIS PHENAX PHENAX (Cope)

Eutaenia phenax COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 20, 1868, p. 134.
Thamnophis phenax phenax SMITH, Zoologica, vol. 27, 1942, pp. 99–100.

Type.—U.S.N.M. No. 30499.

Type locality.—Córdoba, Veracruz.

Range.—Foothills of central Veracruz (recorded only from the type locality, Potrero Viejo, Tequeyutepec, and "Alpine region, Orizaba," *Veracruz;* the vertical range of the species remains in doubt).

THAMNOPHIS PHENAX HALOPHILUS Taylor

Thamnophis halophilus TAYLOR, Herpetologica, vol. 1, 1940, pp. 183–187, pl. 19, text fig. 1.
Thamnophis phenax halophilus SMITH, Zoologica, vol. 27, 1942, p. 100; Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 482–484.

Type.—E. H. Taylor-H. M. Smith Coll. No. 5560.

Type locality.—Seven miles north of Zacualtipán, Hidalgo.

Range.—Central Veracruz north to Hidalgo (known only from the type locality, Tequeyutepec, and "Alpine region, Orizaba," *Veracruz*).

THAMNOPHIS RUFIPUNCTATUS (Cope)

Chilopoma rufipunctatum COPE, *in* Yarrow, Wheeler's Rep. Geogr. Geol. Expl. Surv. W. 100th Mer., vol. 5, Zool., 1875, p. 544.
Thamnophis rufipunctatus SMITH, Zoologica, vol. 27, 1942, pp. 120–121.—SMITH and MITTLEMAN, Trans. Kansas Acad. Sci., vol. 46, 1943, pp. 247–248.

Atomarchus multimaculatus COPE, Amer. Nat., vol. 17, 1883, pp. 1300–1301 (type locality, San Francisco River, New Mexico; type unknown).

Thamnophis multimaculatus TAYLOR, Univ. Kansas Sci. Bull., vol. 27, 1941, pp. 126–128, fig. 6.

Type.—U.S.N.M. No. 8600.

Type locality.—Southern Arizona.

Range.—Central Durango northward to southeastern Arizona, southwestern New Mexico, and northern central Texas (recorded in Mexico only from the states of Chihuahua and Durango).

THAMNOPHIS RUTHVENI Hartweg and Oliver

Thamnophis ruthveni HARTWEG and OLIVER, Occ. Pap. Mus. Zool. Univ. Michigan, No. 390, 1938, pp. 1–4.

Type.—Univ. Mich. Mus. Zool. No. 82469.

Type locality.—Three miles northeast of Tehuantepec, Oaxaca.

Range.—Pacific slopes of the Isthmus of Tehuantepec (recorded only from the vicinity of the type locality and Chivela, *Oaxaca*).

THAMNOPHIS SAURITUS CHALCEUS (Cope)

Prymnomiodon chalceus COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860 (1861), p. 558.

Thamnophis sauritus chalceus DUNN, Herpetologica, vol. 1, 1940, pp. 192–193.

Eutaenia rutiloris COPE, Proc. Amer. Philos. Soc., vol. 22, 1885, pp. 387–389 (type locality, Cozumel Island; type, U.S.N.M. No. 13906).

Thamnophis sauritus rutiloris SMITH, Occ. Pap. Mus. Zool. Univ. Michigan, No. 388, 1938, pp. 5–6, pl. 1.—SCHMIDT, Publ. Field Mus. Nat. Hist., zool. ser., vol. 22, 1941, p. 498.

Type.—Acad. Nat. Sci. Phila. No. 5826.

Type locality.—"Siam," in error.

Range.—Central Veracruz on Atlantic slopes to Costa Rica, including the Yucatán Peninsula and Cozumel Island (recorded in Mexico from the states of Campeche, Chiapas, Puebla, Oaxaca, Quintana Roo, Tabasco, Veracruz, Yucatán).

THAMNOPHIS SAURITUS PROXIMUS (Say)

Coluber proximus SAY, Long's Expedition to the Rocky Mountains, vol. 1, 1823, p. 187.

Thamnophis sauritus proximus RUTHVEN, U. S. Nat. Mus. Bull. 61, 1908, pp. 98–107 (part).—DITMARS, Reptiles of North America, 1936, p. 138, pl. 39 (lower fig.).—SMITH, Occ. Pap. Mus. Zool. Univ. Michigan, No. 388, 1938, p. 6, pl. 1.

Type.—Lost.

Type locality.—Stone quarry on west side of Missouri River, 3 miles above the mouth of Boyers River.

Range.—Colorado to southern Wisconsin, south through Louisiana and Texas to central Veracruz (known in Mexico from the states of Coahuila, Nuevo León, San Luis Potosí, Tamaulipas, and Veracruz).

THAMNOPHIS SCALARIS SCALARIS Cope

Thamnophis scalaris COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860 (1861), p. 369.

Thamnophis scalaris scalaris SMITH, Zoologica, vol. 27, 1942, pp. 100–101.

Type.—Lost.

Type locality.—Jalapa, Veracruz.

Range.—Mountains of central Veracruz, northeastern Puebla, Hidalgo, extreme southern Mexico, Morelos.

THAMNOPHIS SCALARIS GODMANI (Günther)

Tropidonotus godmani GÜNTHER, Biologia Centrali-Americana, Rept., 1894, p. 133.

Thamnophis scalaris godmani SMITH, Zoologica, vol. 27, 1942, pp. 101–103.

Type.—Brit. Mus. Nat. Hist. (several cotypes) and Mus. Comp. Zool. No. 28466 (a cotype).

Type locality.—Omilteme, Guerrero.

Range.—Mountains of south-central Veracruz southward through central Oaxaca and westward along the Sierra Madre del Sur, central Guerrero (recorded from the states of Guerrero, Oaxaca, Puebla, and Veracruz).

THAMNOPHIS SCALARIS SCALIGER (Jan)

Tropidonotus scaliger JAN, Elenco sistematico degli Ofidi, 1863, p. 70; Arch. Zool. Anat. Fis., vol. 3, 1865, p. 214.

Thamnophis scalaris scaliger SMITH, Zoologica, vol. 27, 1942, pp. 103–104.

Eutaenia scalaris DUGÈS, La Naturaleza, ser. 2, vol. 1, 1888, pp. 129–130, pl. 13, fig. 17.—BOCOURT, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 13, 1893, pp. 768–770, pl. 56, fig. 6.

Type.—Milan Mus.

Type locality.—Unknown.

Range.—Mountains of central Mexico from northwestern Puebla westward to central Michoacán, northward to Guanajuato (known from Distrito Federal and the states of Guanajuato, Jalisco, México, Michoacán, Puebla, San Luis Potosí,[81] and Tlaxcala).

THAMNOPHIS SIRTALIS PARIETALIS (Say)

Coluber parietalis SAY, Long's Expedition to the Rocky Mountains, vol. 1, 1823, p. 186.

Thamnophis sirtalis parietalis JORDAN, Manual of the vertebrate animals, ed. 8, 1899, p. 193.—DITMARS, Reptiles of North America, 1936, p. 153, pl. 44.

Type.—Lost.

Type locality.—Stone quarry on west side of Missouri River, 3 miles above the mouth of Boyers River.

Range.—Iowa, Minnesota, and Missouri westward to Utah, eastern Nevada, southern Idaho, southern Alberta and Manitoba; southward through central New Mexico to northern Chihuahua (known definitely from Casas Grandes, *Chihuahua;* literature records for Rinconada, *Coahuila*, and Matamoros, *Tamaulipas*, are somewhat doubtful).

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[81] The record for this locality (Dugès) is possibly referable to *s. scalaris*.

THAMNOPHIS SUMICHRASTI SUMICHRASTI (Cope)

Eutaenia sumichrasti Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866 (1867), p. 306.

Thamnophis sumichrasti sumichrasti Smith, Zoologica, vol. 27, 1942, pp. 110–111.

Thamnophis rozellae Smith, Proc. Biol. Soc. Washington, vol. 53, 1940, pp. 56–57 (type locality, Palenque, Chiapas; type, U.S.N.M. No. 108597).

Type.—U.S.N.M. Nos. 26501–26502, two cotypes.

Type locality.—Orizaba, Veracruz.

Range.—Central Veracruz southward along Atlantic slopes (avoiding Yucatán) to Costa Rica (recorded in Mexico from Aguacate and Palenque, *Chiapas;* Zacualtipán, *Hidalgo;* Montecristo, *Tabasco;* and Orizaba, *Veracruz*).

*THAMNOPHIS SUMICHRASTI CEREBROSUS Smith

Thamnophis sumichrasti cerebrosus Smith, Zoologica, vol. 27, 1942, pp. 111–112.

Type.—U. S. N. M. No. 12734.

Type locality.—Escuintla, Guatemala.

Range.—The Pacific coast and foothills of Guatemala and, probably, southern Chiapas.

*THAMNOPHIS SUMICHRASTI FULVUS (Bocourt)[83]

Eutaenia cyrtopsis fulvus Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 13, 1893, pp. 777–778, pl. 62, fig. 2.

Thamnophis sumichrasti fulvus Smith, Zoologica, vol. 27, 1942, p. 112.

Type.—Mus. Hist. Nat. Paris.

Type locality.—Alta Verapaz, Guatemala.

Range.—Highlands of central and western Guatemala.

THAMNOPHIS SUMICHRASTI PRAEOCULARIS (Bocourt)

Eutaenia praeocularis Bocourt, Le Naturaliste, ser. 2, No. 14, 1892, p. 278; Mission scientifique au Mexique et dans l'Amérique centrale, livr. 13, 1893, pp. 770–771, pl. 56, fig. 7.

Thamnophis praeocularis Schmidt, Publ. Field Mus. Nat. Hist., zool. ser., vol. 22, 1941, p. 498.

Thamnophis sumichrasti praeocularis Smith, Zoologica, vol. 27, 1942, p. 111.

Thamnophis arabdotus Andrews, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1937, pp. 357–358 (type locality, Catmis, Quintana Roo; type, Field Mus. Nat. Hist. No. 26994).

Type.—Mus. Hist. Nat. Paris.

Type locality.—Belize (= British Honduras).

Range.—The Yucatán Peninsula (known in Mexico from Catmis, *Quintana Roo*, and Puerto Morelos, *Yucatán*).

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[83] Probably occurs in Chiapas; not yet recorded in Mexico.

THAMNOPHIS VICINUS Smith

Thamnophis vicinus SMITH, Zoologica, vol. 27, 1942, pp. 104–106.

Type.—E. H. Taylor-H. M. Smith Coll. No. 21539.

Type locality.—Temaxcal, Michoacán.

Range.—Known only from central Michoacán (the type locality and Morelia).

Family ELAPIDAE Boie

Elapidae BOIE, Isis, 1827, p. 510.

Type.—*Elaps* Schneider.

Genus MICRUROIDES Schmidt

Micruroides SCHMIDT, Bull. Antiv. Inst. Amer., vol. 2, No. 3, 1928, pp. 63–64.

Genotype.—*Elaps euryxanthus* Kennicott.

Range.—Arizona and southern New Mexico, possibly extreme southwestern Utah; Sonora, Tiburón Island, and western Chihuahua.

Species.—One.

MICRUROIDES EURYXANTHUS (Kennicott)

Elaps euryxanthus KENNICOTT, Proc. Acad. Nat. Sci. Philadelphia, 1860, pp. 337–338.

Micruroides euryxanthus SCHMIDT, Bull. Antiv. Inst. Amer., vol. 2, No. 3, 1928, pp. 63–64.—DITMARS, Reptiles of North America, 1936, p. 313, pl. 90, lower fig. (in color).

Type.—U.S.N.M. No. 1122.

Type locality.—Sonora.

Range.—Arizona and southern New Mexico, possibly extreme southwestern Utah; Sonora, Tiburón Island, and western Chihuahua.

Genus MICRURUS Wagler

Micrurus WAGLER, *in* Spix, Serpentium Brasiliensium . . ., 1824, p. 48.—SCHMIDT, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1933, pp. 29–40; vol. 20, 1936, pp. 205–216, figs. 24–27 (Mexican and Central American species).

Genotype.—*Micrurus spixii* Wagler.

Range.—Southern United States to Uruguay, northern Argentina, Bolivia, and Peru.

Species.—Twenty species and subspecies occur in Mexico, and about 45 are extralimital.

KEY TO MEXICAN FORMS OF MICRURUS[83]

1. Black bands in triads, *and* outer band of triad about as wide as median ring; red rings present only between the triads, not within them____ 2
   Black bands single, not in triads____________________________________ 3

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[83] Starred forms in the key have keeled supraanal scales in adult males (not known in *laticollaris*, and in *browni* they may be present or absent).

2. Yellow rings in the triads and on tail split by a very narrow black ring (interrupted or not); light head ring very narrow, interrupted dorsally---------- **elegans elegans***
Yellow rings not split; light head ring broad, uninterrupted---------- **laticollaris**
3. Entire supralabial border light, or a distinct light spot on tip of snout---------- 4
Black on anterior part of head reaching labial border; no light spot on tip of snout---------- 8
4. Black rings on body generally over 29 (minimum 28); scales in red areas not uniformly black-tipped---------- **affinis apiatus**
Black rings on body 28 or less; species with higher numbers have the tips of the red scales uniformly black-tipped---------- 5
5. Scales in red areas not or very feebly black-tipped---------- 6
Scales in red areas nearly or quite uniformly black-tipped---------- 8
6. Black rings on body less than nine---------- **diastema michoacanensis**
Black rings on body more than nine---------- 7
7. Ventrals 191 to 210 in males, 207 to 220 in females---------- **diastema diastema**
Ventrals 208 to 216 in males, 222 to 237 in females---------- **diastema distans**
8. Red bands narrow (not over six scale lengths), completely interrupted dorsally by a broad black area extending laterally to second or third scale row---------- **ephippifer**
Red rings not completely interrupted dorsally---------- 9
9. Scales in red areas not black-tipped or otherwise marked with black---------- 10
Scales in red areas black-tipped or black-spotted---------- 12
10. Ventrals 210 to 220 in males (6), 226 to 230 in females (5); black rings usually including three or four ventrals, 11+4 to 24+7 (usually over 17+4) on body and tail; yellow rings distinct, covering one and one-half scale lengths dorsally---------- **browni***
Ventrals 196 to 207 in males, 213 to 224 in females; black rings narrower, including 2 or 3 ventrals, 12 to 20 on body, 3 to 7 on tail; yellow rings narrow or broad---------- 11
11. Yellow rings broader, covering 1½ to 2 scale lengths dorsally; black rings 12+3 (female) or 12+4 (male) in known specimens; prefrontals in contact with or narrowly separated from labials. **nigrocinctus ovandoensis***
Yellow rings very narrow, frequently obsolete ventrally, covering less than one scale length dorsally; black rings 15+4 to 20+5 in females, 14+5 to 18+7 in males; prefrontals broadly separated from labials---------- **nigrocinctus zunilensis***
12. Body with about 40 black spots restricted to dorsum---------- **bernadi**
Body with not over 28 black rings or (rarely) spots---------- 13
13. Black rings covering six or more scale lengths middorsally (excluding anterior two or three)---------- 14
Black rings covering five or less scale lengths middorsally (excluding anterior two or three)---------- 15
14. Black rings six to nine---------- **latifasciatus***
Black rings more numerous---------- **fulvius tenere**
15. Nuchal black band covering eight scale lengths or more; black bands on body seven to ten---------- **nuchalis nuchalis***
Nuchal black band covering less than eight scale lengths; black bands on body not known to be less than 11---------- 16
16. Black rings broader, covering three to five scale lengths middorsally---------- 17
Black rings narrower, covering two or three scale lengths middorsally---------- 19

17. Red rings not over twice length of black rings, usually nearly equal-- 18
Red rings over twice as long as black rings---------- **browni***

18. Light parietal ring one-third length of parietals; yellow rings covering no more than one scale length on any part of the body, usually less---------- **fitzingeri microgalbineus**
Light parietal ring two-thirds length of parietals; yellow rings covering about one-half to two scale lengths at least anteriorly---------- **fitzingeri fitzingeri**

19. Black nape ring covering six scale lengths behind head middorsally; ventrals 218 in single male---------- **nuchalis taylori***
Black nape ring covering two or three scale lengths behind head middorsally; ventrals 192 to 213 in males---------- 20

20. Black rings on body 20 to 28---------- **affinis alienus**
Black rings on body fewer---------- 21

21. Temporals generally 1–2; generally at least a few caudals entire.
affinis mayensis
Temporals usually 1–1; all caudals generally divided---------- **affinis affinis**

MICRURUS AFFINIS AFFINIS (Jan)

Elaps affinis Jan, Rev. Mag. Zool., 1858, p. 525, pl. 2 (col.).

Elaps fulvius affinis Jan, Iconographie générale des ophidiens, livr. 42, 1872, pl. 1, fig. 2.

Micrurus affinis affinis Schmidt, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1933, p. 36.—Taylor, Univ. Kansas Sci. Bull., vol. 26, 1939 (1940), p. 486.—Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 452.

Elaps corallinus crebripunctatus Peters, Monatsb. Akad. Wiss. Berlin, 1869, p. 877 (type locality, state of Puebla; type in Berlin Mus.).

Elaps fulvius diastema Mocquard (*nec* Duméril and Bibron), Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 16, 1908, pl. 74, fig. 5.

Elaps fulvius epistema Mocquard (*nec* Duméril and Bibron), *ibid.*, fig. 6.

Type.—Mus. Hist. Nat. Paris No. 4624.

Type locality.—Mexico.

Range.—Central and southern Veracruz, and parts of eastern Puebla and Oaxaca (recorded from Oaxaca, Puebla, and Veracruz).

MICRURUS AFFINIS ALIENUS (Werner)

Elaps alienus Werner, Zool. Anz., vol. 26, 1903, p. 249.

Micrurus affinis alienus Schmidt, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1936, pp. 212–213.

Micrurus affinis stantoni Schmidt, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1933, pp. 36–37 (type locality, Belize, British Honduras; type, Field Mus. Nat. Hist. No. 4201).

Type.—Mus. Nat. Belgique.

Type locality.—Unknown; "perhaps Venezuela or Ecuador," in error.

Range.—Atlantic lowlands from the Isthmus of Tehuantepec to British Honduras and Petén, including the base of the Yucatán Peninsula (known in Mexico from the states of Campeche, Oaxaca [El Barrio or Barrios], and Tabasco).

MICRURUS AFFINIS APIATUS (Jan)

Elaps apiatus Jan, Rev. Mag. Zool., 1858, p. 522, pl. 1, col.

Micrurus affinis apiatus Schmidt, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1933, pp. 37–38.—Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 452.

Type.—Mus. Hist. Nat. Paris.

Type locality.—Verapaz, Guatemala.

Range.—Atlantic slopes of highlands of Chiapas and Guatemala (known in Mexico only from Palenque, *Chiapas*).[84]

MICRURUS AFFINIS MAYENSIS Schmidt

Micrurus affinis mayensis Schmidt, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1933, p. 37.

Type.—Mus. Comp. Zool. No. 31872.

Type locality.—Chichen Itzá, Yucatán.

Range.—The Yucatán Peninsula (recorded from the state of Yucatán and the territory of Quintana Roo).

MICRURUS BERNADI (Cope)

Elaps bernadi Cope, U. S. Nat. Mus. Bull. 32, 1887, p. 87.

Micrurus bernadi Schmidt, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1933, p. 40.

Type.—Acad. Nat. Sci. Phila. No. 14767.

Type locality.—Zacualtipán, Hidalgo.

Range.—Western Hidalgo and northern Puebla.

MICRURUS BROWNI Schmidt and Smith

Micrurus browni Schmidt and Smith, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1943, pp. 29–30.

Type.—Field Mus. Nat. Hist. No. 38494.

Type locality.—Chilpancingo (Ciudad Bravos), Guerrero.

Range.—The Sierra Madre del Sur of central Guerrero (recorded only from Omilteme and Chilpancingo).

MICRURUS DIASTEMA DIASTEMA (Duméril, Bibron, and Duméril)

Elaps diastema Duméril, Bibron, and Duméril, Erpétologie générale, vol. 7, pt. 2, 1854, p. 1222.

Micrurus diastema diastema Schmidt, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1933, pp. 38–39 (part).

Elaps epistema Duméril, Bibron, and Duméril, Erpétologie générale, vol. 7, pt. 2, 1854, pp. 1222–1223 (type locality, Mexico; type in Mus. Hist. Nat. Paris).

Elaps fulvius hypostema Jan, Elenco sistematico degli Ofidi, 1863, p. 113 (type locality, Mexico; type in Westphal-Castelnau collection).

Type.—Mus. Hist. Nat. Paris, three cotypes.

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[84] The two specimens from this locality probably are in reality intergrades between *a. apiatus* and *a. alienus*, but they are certainly nearer the former.

Type locality.—Restricted to Colima (originally "Mexico").

Range.—Vicinity of Colima (known from Colima and Paso del Río, *Colima*).[85]

MICRURUS DIASTEMA DISTANS (Kennicott)

Elaps distans KENNICOTT, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 338.

Micrurus diastema distans SCHMIDT, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1933, p. 39.—SCHMIDT and SMITH, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1943, p. 28.

Type.—U.S.N.M. No. 1144.

Type locality.—Batosegachie (=Batosegachic), Chihuahua.

Range.—Southwestern Chihuahua and southern Sonora to southern Sinaloa (recorded from the states of Chihuahua, Jalisco,[86] Nayarit, Sinaloa, and Sonora).

MICRURUS DIASTEMA MICHOACANENSIS (Dugès)

Elaps diastema michoacanensis DUGÈS, La Naturaleza, ser. 2, vol. 1, 1891, p. 487, pl. 32.

Micrurus diastema michoacanensis SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 453.—SCHMIDT and SMITH, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1943, pp. 28–29.

Type.—Original lost. Neotype from Tecpan de Galeana, Guerrero, in the Alfredo Dugès Mus., Univ. Guanajuato, Mexico.

Type locality.—Michoacán.

Range.—Balsas River Basin in Michoacán and Guerrero (records are from Tecpan de Galeana, *Guerrero*, and near Apatzingán, *Michoacán;* the race probably occurs in central Oaxaca, and perhaps in Morelos and southwestern Puebla in the Balsas Basin, but records from these areas are not yet available).

MICRURUS ELEGANS ELEGANS (Jan)

Elaps elegans JAN, Rev. Mag. Zool., 1858, p. 524, pl. 2, col.; Iconographie générale des ophidiens, livr. 42, 1872, pl. 5, fig. 2.

Micrurus elegans elegans SCHMIDT, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1933, p. 32.

Type.—Milan Mus.

Type locality.—Mexico.

Range.—Central Veracruz to Tabasco and perhaps into Guatemala (recorded from several localities in the state of Veracruz, and Teapa, *Tabasco*).

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[85] Records of this species from Oaxaca and Chiapas are probably referable to *nuchalis.*

[86] The reference of U.S.N.M. No. 67374 (with 237 ventrals) from Magdalena, Jalisco, to *Micrurus d. distans* instead of to *M. d. diastema*, tentatively places Mocquard's "*Elaps fulvius*" (Bull. Soc. Philom. Paris, ser. 9, vol. 1, 1899, p. 157) from Cerro San Juan, near Tepic, Nayarit, with *M. d. distans.*

MICRURUS EPHIPPIFER (Cope)

Elaps ephippifer COPE, Proc. Amer. Philos. Soc., vol. 23, 1886, p. 281.

Micrurus ephippifer SCHMIDT, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1933, p. 38.—SMITH, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 453.

Type.—U.S.N.M. No. 30085.

Type locality.—Pacific side of the Isthmus of Tehuantepec.

Range.—Pacific slopes of Oaxaca from Oaxaca city to the Isthmus of Tehuantepec.

MICRURUS FITZINGERI FITZINGERI (Jan)

Elaps fitzingeri JAN, Rev. Mag. Zool., 1858, p. 521, pl. 1, col.

Elaps fulvius fitzingeri JAN, Iconographie générale des ophidiens, livr. 42, 1872, pl. 2, fig. 3.

Micrurus fitzingeri SCHMIDT, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1933, p. 38.

Micrurus fitzingeri fitzingeri BROWN and SMITH, Proc. Biol. Soc. Washington, vol. 55, 1942, pp. 63–65.

Type.—Milan, Torino, Hamburg Mus., cotypes; Vienna Mus. cotype lost.

Type locality.—Mexico.

Range.—Central Mexico, Guanajuato to Morelos, and Michoacán (recorded from "*Guanajuato*," 12 km. north of Cuernavaca, *Morelos*, and Zamora, *Michoacán;* records for Mexico (city), *Distrito Federal*, probably are referable to this race).

MICRURUS FITZINGERI MICROGALBINEUS Brown and Smith

Micrurus fitzingeri TAYLOR, Univ. Kans. Sci. Bull., vol. 27, 1939 (1940), pp. 484–485.

Micrurus fitzingeri microgalbineus BROWN and SMITH, Proc. Biol. Soc. Washington, vol. 55, 1942, pp. 63–65.

Type.—E. H. Taylor–H. M. Smith Coll. No. 27847.

Type locality.—Seven km. south of Antiguo Morelos, Tamaulipas.

Range.—Known only from the type locality, 18 km. north of Valles, *San Luis Potosí*, and Tamazunchale, *San Luis Potosí.*

MICRURUS FULVIUS TENERE (Baird and Girard)

Elaps tenere BAIRD and GIRARD, Catalogue of North American reptiles, 1853, pp. 22–23.

Elaps fulvius tener GARMAN, Mem. Mus. Comp. Zool., vol. 8, 1883, pp. 105, 169, pl. 8, fig. 3.

Micrurus fulvius tenere SCHMIDT, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1933, p. 40.

Type.—U.S.N.M. No. 1119, one cotype; two cotypes from New Braunfels missing.

Type locality.—San Pedro of the Rio Grande and New Braunfels, Tex.

Range.—Gulf coast from Texas south to southern Tamaulipas, and west to central Coahuila (recorded in Mexico only from the states of Tamaulipas and Coahuila).

MICRURUS LATICOLLARIS (Peters)

Elaps marcgravii laticollaris Peters, Monatsb. Akad. Wiss. Berlin, 1869, pp. 877–878.

Micrurus laticollaris Schmidt, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1933, pp. 39–40; vol. 20, 1936, pp. 215–216, fig. 27.—Taylor, Univ. Kansas Sci. Bull., vol. 26, 1940, p. 484.

Type.—Berlin Mus. (three cotypes).

Type locality.—Probably Matamoros, Puebla.

Range.—The Río Balsas Basin in Michoacán, Guerrero, Puebla, and Morelos, probably also in Oaxaca and México (recorded from Chilpancingo and Mexcala, *Guerrero;* El Sabino and Jorullo, *Michoacán;* Cuernavaca, *Morelos;* and Matamoros, *Puebla*).

MICRURUS LATIFASCIATUS Schmidt

Micrurus latifasciatus Schmidt, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1933, p. 35.—Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 454.

Type.—Mus. Comp. Zool. No. 22135.

Type locality.—Finca El Ciprés, Volcán Zunil, Suchitepequez, Guatemala.

Range.—Pacific slopes of Guatemala and southern Chiapas (known in Mexico only from La Esperanza (Mariscal), and near Escuintla, *Chiapas*).

MICRURUS NIGROCINCTUS OVANDOENSIS Schmidt and Smith

Micrurus nigrocinctus zunilensis (*nec* Schmidt) Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, p. 454.

Micrurus nigrocinctus ovandoensis Schmidt and Smith, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1943, pp. 26–28.

Type.—U.S.N.M. No. 111331.

Type locality.—Salto de Agua, 1,500 feet, Mount Ovando, Chiapas.

Range.—In foothills on Pacific slopes of southern Chiapas, and perhaps southward to Honduras (known only from the type locality and La Esperanza [near Escuintla], *Chiapas*).

MICRURUS NIGROCINCTUS ZUNILENSIS Schmidt

Micrurus nigrocinctus zunilensis Schmidt, Proc. California Acad. Sci., ser. 4, vol. 20, 1932, pp. 263–267.—Schmidt and Smith, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1943, p. 26.

Type.—Calif. Acad. Sci. No. 66001.

Type locality.—Finca El Ciprés, Volcán Zunil, Suchitepequez, Guatemala.

Range.—Pacific slopes of Guatemala and southern Chiapas (known in Mexico only from Mount Ovando, 6,000 feet, *Chiapas*).

MICRURUS NUCHALIS NUCHALIS Schmidt

Micrurus nuchalis SCHMIDT, Publ. Field Mus. Nat. Hist., zool. ser., vol. 20, 1933, pp. 35–36.

Micrurus nuchalis nuchalis SCHMIDT and SMITH, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1943, p. 31.

Type.—Mus. Comp. Zool. No. 27830.

Type locality.—Tapanatepec, Oaxaca.

Range.—Pacific slopes of the Isthmus of Tehuantepec, westward perhaps to Guerrero (recorded definitely only from Tapanatepec, *Oaxaca;* records from Santa Efigenia, Cacoprieto, and Tehuantepec, *Oaxaca*, as well as "*Chiapas*", probably belong here).

MICRURUS NUCHALIS TAYLORI Schmidt and Smith

Micrurus nuchalis TAYLOR, Univ. Kansas Sci. Bull., vol. 27, 1939 (1940), pp. 483–484.

Micrurus nuchalis taylori SCHMIDT and SMITH, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1943, pp. 30–31.

Type.—E. H. Taylor-H. M. Smith Coll. No. 5085.

Type locality.—Acapulco, Guerrero.

Range.—Coastal areas of central Guerrero (known only from the type locality).

Family HYDROPHIDAE Boie

Hydrophidae BOIE, Isis, 1827, p. 510.

Type.—*Hydrophis* Daudin.

Genus PELAMIS Daudin

Pelamis DAUDIN, Histoire naturelle . . . des reptiles, vol. 7, An. 11, 1803, pp. 357–362.

Genotype.—*Anguis platura* Linnaeus.

Range.—Indian Ocean and the tropical and subtropical Pacific.

Species.—One.

PELAMIS PLATURUS (Linnaeus) [87]

Anguis platura LINNAEUS, Systema naturae, ed. 12, 1766, p. 391.

Pelamis platurus GRAY, Ann. Philos., 1825, p. 15.—SMITH, Sea snakes, 1926, pp. 41, 116.—BURT and BURT, Bull. Amer. Mus. Nat. Hist., vol. 63, 1932, pp. 572–573, fig. 35 (head scales).

Hydrus platurus DITMARS, Reptiles of the world, 1910, pl. 64 (upper fig.).

Type.—Uncertain.

Type locality.—Pine Island, Pacific Ocean.

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[87] We believe that Malcolm Smith (Sea snakes, 1926, pp. 41, 116) is correct in retaining the genus *Pelamis.* It is generally agreed that *Hydrus* Schneider, in which *platurus* was included, is not available for this genus, since its type is *caspius* Schneider (Opinion 18, Intern. Comm. Zool. Nomen.), a synonym of *Hydrus hydrus* (=*Natrix tessellata, fide* Boulenger). The difference of opinion begins with *Hydrophis* Latreille (1802), which Stejneger (Proc. U. S. Nat. Mus., vol. 38, 1910, p. 111) interprets as nothing but a substitute for *Hydrus.* That this is not entirely correct is shown by Smith, who emphasizes that Latreille's *Hydrophis* contains only *laticaudus* and *platurus,* while Schneider's *Hydrus*

Range.—In America, the Pacific coast and Islands from the gulf of California to Ecuador (recorded in Mexico from the states of Colima, Guerrero, Jalisco, Nayarit, Sinaloa, and Sonora, and the Islands of María Magdalena, Santa Margarita, and Espíritu Santo).

Family CROTALIDAE Gray

Crotalidae GRAY, Ann. Philos., 1825, p. 204.

Type.—*Crotalus* Linnaeus.

Genus AGKISTRODON Beauvois

Agkistrodon BEAUVOIS, Trans. Amer. Philos. Soc., vol. 4, 1799, p. 381.

Genotype.—*Cenchris mokeson* (Daudin).

Range.—Central and eastern United States southward to Nicaragua; Asia.

Species.—Three species (*mokeson*, *piscivorus*, and *bilineatus*) are known from the Americas (*mokeson* with four subspecies, *piscivorus* with two); nine are known from the Old World. Three forms probably occur in Mexico, although only one is definitely known.

KEY TO MEXICAN FORMS OF AGKISTRODON[88]

1. Scale rows 25; loreal absent........................ piscivorus leucostomus
   Scale rows 23; loreal present.. 2
2. A prominent light line extending posteriorly from rostral over eye to temporal region; ventrals 129 to 144, caudals 59 to 68, in 23 specimens........................ bilineatus
   No light line as described; ventrals 150 to 153, caudals 52 to 59 in known (5) specimens........................ mokeson pictigaster

AGKISTRODON BILINEATUS Günther[89]

Ancistrodon bilineatus GÜNTHER, Ann. Mag. Nat. Hist., ser. 3, vol. 12, 1863, p. 364; Biologia Centrali-Americana, Rept. 1895, p. 186, pl. 58, figs. A, B.—MOCQUARD, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 17,

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contained various species in addition to these. Although no type was designated or indicated for *Hydrophis*, the fact that it does not include the type of *Hydrus* makes impossible synonymizing it with the latter (except on zoological grounds, which are lacking).

The use of the name *Pelamis* is perhaps open to some question, the difference of opinion again involving definition of "substitution." As Stejneger pointed out, in proposing the name *Pelamis* Daudin states that the name is a substitute for *Hydrophis*, but likewise Latreille states that his *Hydrophis* is a substitute for *Hydrus*. In our opinion, Daudin's mere statement cannot be accepted as fact, any more than can Latreille's, for Daudin's genus is *not* exactly the same as Latreille's, since it includes *granulatus*, a name not placed in *Hydrophis* by Latreille.

The first genotype chosen was *platurus*, type of *Pelamis*, designated in 1825 by Gray (*loc. cit.*). If it is reasoned that *Pelamis* is a straight substitute for *Hydrophis*, then its type, since it was chosen first, becomes the type of *Hydrophis*.

If, however, *Pelamis* is reasoned not a simple substitute for *Hydrophis*, then *Pelamis*, type *platurus*, remains acceptable. In this case the name *Hydrophis* also remains acceptable, its type *fasciatus*, designated by Smith (*op. cit.*). This is the arrangement accepted by Malcolm Smith, whom we follow.

[88] From Gloyd and Conant, *op. cit.*, pp. 166–167.

[89] *Trigonocephalus bilineatus* (Günther, 1863) Bocourt, 1882, is a secondary homonym of *Trigonocephalus bilineatus* (Wied, 1825) Schlegel, 1837. For those who suppress secondary homonyms no alternative name is available.

1909, pp. 935–936, pl. 27 (head in color; the plate appeared in livr. 8, 1882).—DITMARS, Snakes of the world, 1931, pl. 54 (lower fig.).

Agkistrodon bilineatus STEJNEGER, North Amer. Fauna, No. 14, 1899, p. 71.—TAYLOR, Univ. Kansas Sci. Bull., vol. 26, 1939 (1940), p. 486.—GLOYD and CONANT, Bull. Chicago Acad. Sci., vol. 7, No. 2, 1943, p. 163, figs. 4, 11, 12, map 2.—SCHMIDT and OWENS, Publ. Field Mus. Nat. Hist., zool. ser., vol. 29, 1944, p. 113.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Pacific coast of Guatemala.

Range.—Coastal areas from central eastern Nuevo León southward into Nicaragua, including the Yucatán Peninsula; from southern Sonora southward on the Pacific coast into Guatemala; María Madre Island, Tres Marías Islands (known from various localities in the states of Chiapas, Colima, Guerrero, Jalisco, Michoacán, Nayarit, Nuevo León, Oaxaca, Sinaloa, Sonora, and Yucatán, as well as the Tres Marías Islands).

*AGKISTRODON MOKESON PICTIGASTER Gloyd and Conant[90]

Agkistrodon mokeson pictigaster GLOYD and CONANT, Bull. Chicago Acad. Sci., vol. 7, No. 2, 1943, pp. 156–162, fig. 10, map. 1.

Type.—Chicago Acad. Sci. No. 4857.

Type locality.—Maple Canyon, Chisos Mountains, 5,200 feet, Brewster County, Tex.

Range.—Trans-Pecos region of Texas, including southern Jeff Davis County and the Chisos Mountains of Brewster County.

*AGKISTRODON PISCIVORUS LEUCOSTOMUS (Troost)[91]

Acontias leucostoma TROOST, Ann. Lyc. Nat. Hist. New York, vol. 3, 1836, p. 176, pl. 5, figs. 1–4.

Agkistrodon piscivorus leucostoma GLOYD and CONANT, Bull. Chicago Acad. Sci., vol. 7, No. 2, 1943, pp. 164–165, figs. 5, 13, 15, map 2.

Type.—Not known. Neotype, Chicago Acad. Sci. No. 5604.

Type locality.—Western Tennessee, restricted to 10 miles northeast of Bolivar, Hardeman County, Tenn.

Range.—"The valley of the Rio Grande . . . and the Gulf Coastal Plain of Texas, Louisiana, and Mississippi, eastward at least to the vicinity of Mobile, Alabama; north in the Mississippi Valley through western Tennessee to southern Illinois, and west as far as Miller county, Missouri, and eastern Oklahoma."

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[90] Known from the trans-Pecos region, including the Chisos Mountains, of Texas, and therefore to be expected in adjacent regions of Coahuila.

[91] Not definitely recorded from Mexico. It is to be expected since it is known from the Rio Grande on the United States side.

Genus BOTHROPS Wagler[92]

Bothrops Wagler, *in* Spix, Serpentum Brasiliensium . . ., 1824, p. 50.—Maslin, Copeia, 1942, No. 1, pp. 18–20 (segregation of *Trimeresurus*).

Bothriechis Peters, Monatsb. Akad. Wiss. Berlin, 1859, p. 278 (type, *B. nigroviridis* Peters).

Teleuraspis Cope, Proc. Acad. Nat. Sci. Philadelphia, 1859, p. 338 (type, *Trigonocephalus schlegelii* Berthold).

Thamnocenchris Salvin, Proc. Zool. Soc. London, 1860, p. 459 (type, *T. aurifer* Salvin).

Porthidium Cope, Proc. Acad. Nat. Sci. Philadelphia, 1871, p. 207 (type, *Trigonocephalus lansbergii* Schlegel).

Ophryacus Cope, U. S. Nat. Mus. Bull. 32, 1887, p. 88 (type, *Trigonocephalus undulatus* Jan).

Thanatophis Posada-Aranga, Bull. Soc. Zool. France, 1889, p. 343 (type, *T. torvus* Posada-Aranga [=*B. schlegelii* Berthold]).

Trimeresurus Smith (*nec* Lacepède), Zoologica, vol. 26, 1941, pp. 61–64 (notes on and key to Mexican species).

Genotype.—*Coluber lanceolatus* Lacepède.

Range.—Tamaulipas and Guerrero, Mexico, southward on both coasts through Peru and Argentina.

Species.—About 51 species and subspecies in the Americas, 13 occurring in Mexico.

KEY TO MEXICAN FORMS OF BOTHROPS

1.	Supraocular produced as a soft, hornlike scute	2
	Supraocular flat	3
2.	Subcaudals entire	melanurus
	Subcaudals divided	undulatus
3.	Supraocular bordered laterally by two or three enlarged, hornlike scales; subcaudals entire; arboreal; greenish	schlegelii
	Supraocular not bordered by hornlike scales	4
4.	Snout produced, turned up	5
	Snout not noticeably turned up	7
5.	Rostral about twice as high as wide	nasutus
	Rostral no more than one and one-half times as high as wide	6
6.	Bands on body not distinctly paired; two lower preoculars small, subequal, excluded from border of orbit; scale rows 21 in front of anus	yucatanicus

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[92] In view of Malcolm Smith's comments (Copeia, 1942, p. 256) upon the variation in a character stressed by Maslin in his recent segregation of *Bothrops* and *Trimeresurus*, the retention of the former name for American members of the group demands some explanation. Our chief reason is that the American species themselves rather clearly belong to more than one genus; certain ones of these are easily defined, while others are not. This uncertainty regarding the definition of all generic groups in the Americas has prevented us from splitting part of them from "*Bothrops*." Since the group is now being studied by others, no doubt all the genera will be satisfactorily defined. In the meantime we rely upon the knowledge that in reality several genera occur in the Americas to justify the use of a name with an American type, granting that *Bothrops* will be restricted to a smaller group than now. This, of course, does not obviate the possibility that one or more of the American genera may occur in the Eastern Hemisphere and that one of these may be *Trimeresurus*. Clearly no disposition can be satisfactory until a thorough study of the group is completed; and until that time we believe the least disturbing course is to retain *Bothrops* for American species, *Trimeresurus* for those of the Eastern Hemisphere.

Bands on body paired, each half well defined and usually separated medially from its mate; middle preocular considerably larger than lower, broadly in contact with border of orbit; scale rows usually 19 in front of anus ...... dunni

7. Subcaudals single 8

Subcaudals double ...... atrox asper

8. Scales in 23 rows or more 9

Scales in 21 rows or less; size smaller 10

9. Nasal in contact with rostral, not over two, and as few as no scales whatever, bordering nasorostral contact above or below; lower border of postocular stripe usually involving only posterior temporal of lower row ...... mexicanus

Nasal separated from rostral by a row of three small scales; lower border of postocular stripe involving two to four posterior temporals of lower row ...... nummifer

10. Width of a supraocular about half distance between supraoculars; subcaudals 22 to 34; brown; terrestrial 11

Width of a supraocular one-third distance between supraoculars, or less; subcaudals 44 to 67; green; arboreal 12

11. Scale in 21 rows; upper preocular large, forming part of canthal ridge; loreal small, excluded from canthal ridge, not in contact with supraocular ...... godmani

Scales in 19 or 17 rows; upper preocular small, excluded from canthal ridge; loreal large, forming part of canthal ridge, in contact with supraocular ...... barbouri

12. Head scales smooth; scales in 19 rows ...... nigroviridis aurifer

Head scales keeled; scales in 21 rows ...... bicolor

BOTHROPS ATROX ASPER (Garman) [93]

Bothrops atrox Duméril, Bibron, and Duméril, Erpétologie générale, vol. 7, pt. 2, 1854, pp. 1507–1509.—Ditmars, Snakes of the world, 1931, pls. 60, 64.

Bothrops atrox dirus Jan, Elenco sistematico degli Ofidi, 1863, p. 126 (type locality, "Buenos Ayres; Mexico; Orizaba"; cotypes in Torino, Giessen, Leiden Mus.; restricted to specimen from Buenos Aires) (part).

Trimeresurus atrox Mocquard, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 17, 1909, pp. 940–941.

Trigonocephalus asper Garman, Bull. Mus. Comp. Zool., vol. 8, 1883, p. 124.

Type.—Mus. Comp. Zool. No. 2718, 2 heads.

Type locality.—Obispo, Panama.

Range.—From Tamaulipas and extreme southeastern San Luis Potosí on the Atlantic coast, and from the Isthmus of Tehuantepec on the Pacific, southward along both coasts into South America, including Yucatán (known in Mexico from the states of Campeche, Chiapas, Oaxaca, San Luis Potosí, Tabasco, Veracruz, and Yucatán; a record from Tamaulipas (Martín del Campo, Foll. Div. Cient. Univ. Nac. Mex., No. 27, 1937, p. 14) seems to be based upon probability of occurrence instead of actual specimens [as are several other state records in the same paper] and the Atoyac, *Guerrero*, record of Boulenger (Catalogue of the snakes in the British Museum, vol. 3, 1896, pp.

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[93] We use this name at the suggestion of Dr. Dunn.

535–537) probably refers to the town by the same name in the state of Veracruz).

BOTHROPS BARBOURI (Dunn)

Lachesis barbouri Dunn, Proc. Biol. Soc. Washington, vol. 32, 1919, pp. 213–214.
Bothrops barbouri Amaral, Mem. Inst. Butantan, vol. 4, 1929, p. 234.
Trimeresurus barbouri Smith, Zoologica, vol. 26, part 1, 1941, p. 61.
Agkistrodon browni Shreve, Copeia, 1938, No. 1, p. 9 (type locality, Omilteme, Guerrero; type, Mus. Comp. Zool. No. 42678).

Type.—U.S.N.M. No. 46347.

Type locality.—Omilteme, Guerrero.

Range.—Sierra Madre del Sur, central Guerrero (known only from the vicinity of the type locality).

BOTHROPS BICOLOR Bocourt

Bothrops bicolor Bocourt, Ann. Sci. Nat., ser. 5, vol. 10, 1868, p. 202.
Trimeresurus bicolor Mocquard, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 17, 1909, p. 948, pl. 76, fig. 1.—Smith, Zoologica, vol. 26, part 1, 1941, pp. 61–62.

Type.—Mus. Hist. Nat. Paris.

Type locality.—San Agustín, Sololá, Guatemala.

Range.—Pacific foothills, Guatemala and extreme southern Chiapas (known in Mexico only from Chicharras, and Mount Ovando, *Chiapas*).

BOTHROPS DUNNI (Hartweg and Oliver)

Trimeresurus dunni Hartweg and Oliver, Occ. Pap. Mus. Zool. Univ. Michigan, No. 390, 1938, pp. 6–7, pl. 1.

Type.—Univ. Mich. Mus. Zool. No. 82732.

Type locality.—Tehuantepec, Oaxaca.

Range.—Pacific slopes of the Isthmus of Tehuantepec; known only from the state of Oaxaca.

BOTHROPS GODMANI (Günther)

Bothriechis Godmanni Günther, Ann. Mag. Nat. Hist., ser. 3, vol. 12, 1863, pp. 364–365, pl. 6, fig. G.
Bothrops (*Bothriopsis*) *godmanii* Müller, Verh. Nat. Ges. Basel, vol. 7, 1882, p. 402, pl. 3, fig. B.
Bothrops godmani Amaral, Mem. Inst. Butantan, vol. 4, 1929, p. 235.—Martín del Campo, Anal. Inst. Biol. Mex., vol. 9, 1938, pp. 227, 229, fig. 2.—Ditmars, Snakes of the world, 1931, pl. 55 (lower fig.).

Type.—Brit. Mus. Nat. Hist.

Type locality.—Totonicapán, Guatemala.

Range.—Central Chiapas to Panama (known in Mexico only from near Comitán, and San Cristóbal, *Chiapas*).

BOTHROPS MELANURUS (Müller)

Trimeresurus melanurus Müller, Mitt. Zool. Mus. Berlin, vol. 11, pt. 1, 1923, pp. 92–93.

Bothrops melanura Amaral, Mem. Inst. Butantan, vol. 4, 1929, p. 236.

Trimeresurus garciai Smith, Proc. Biol. Soc. Washington, vol. 53, 1940, pp. 62–64, fig. 2 (type locality, Cacaloapam, Puebla; type, U. S. N. M. No. 108602).

Type.—Berlin Mus. No. 26403.

Type locality.—Mexico.

Range.—Desert region of southern Puebla and perhaps of northern Oaxaca also (known only from the vicinity of Tehuacán, *Puebla*).

BOTHROPS MEXICANUS (Duméril, Bibron, and Duméril)

Atropos mexicanus Duméril, Bibron, and Duméril, Erpétologie générale, vol. 7, 1854, p. 1521, pl. 83, fig. b.

Bothrops mexicanus Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 398–400.

Bothriechis nummifera notata Fischer, Arch. Nat., 1880, p. 222, pl. 8, figs. 10–12 (type locality, Cobán, Guatemala; type in Stuttgart Mus.).

Bothrops nummifera Ditmars, Snakes of world, 1931, pls. 56, 57.

Type.—Paris Mus.

Type locality.—Cobán, Guatemala.

Range.—Extreme southern Mexico through Central America (known in Mexico from the states of Chiapas and Tabasco).

*BOTHROPS NASUTUS Bocourt [94]

Bothrops nasutus Bocourt, Ann. Sci. Nat., ser. 5, vol. 10, 1868, p. 202.—Ditmars, Snakes of world, 1931, pl. 55 (upper fig.).

Trimeresurus nasutus Smith, Zoologica, vol. 26, pt. 1, 1941, p. 62.

Type.—Mus. Hist. Nat. Paris.

Type locality.—Panzos, Río Polochic, Guatemala.

Range.—Atlantic foothills of extreme southern Mexico (Veracruz?) south into Guatemala.

BOTHROPS NIGROVIRIDIS AURIFER (Salvin)

Thamnocenchris aurifer Salvin, Proc. Zool. Soc. London, 1860, pp. 459–460, pl. 32, fig. 1.

Bothrops n.[*igroviridis*] *aurifera* Barbour and Loveridge, Bull. Antiv. Inst. Amer., vol. 3, 1929, pp. 1–3.—Martín del Campo, Anal. Inst. Biol. Mex., vol. 9, 1938, pp. 227–228, fig. 1.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Cobán, Guatemala.

Range.—Atlantic foothills of central Guatemala and central Chiapas (known in Mexico only from near Comitán, *Chiapas*).

BOTHROPS NUMMIFER (Rüppell)

Atropos nummifer Rüppell, Verz. Mus. Senck., Amph., 1845, p. 21.

Bothrops nummifer Jan, Elenco sistematico degli Ofidi, 1863, p. 126.—Smith, Proc. U. S. Nat. Mus., vol. 93, 1943, pp. 398–401.

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[94] No definite records of the occurrence of this species in Mexico are yet available; its existence there is indicated by a record from Piedras Negras, Guatemala, on the Usumacinta River directly across from Chiapas, and by one in the Philadelphia Academy of Natural Sciences labeled "Veracruz," collected by Rev. Heyde.

Trimeresurus nummifer MOCQUARD, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 17, 1909, pp. 941–942.

T.[*rimeresurus*] *n.*[*ummifer*] *nummifer* DUNN, Proc. Biol. Soc. Washington, vol. 52, 1939, pp. 165–166.—SMITH, Zoologica, vol. 26, part 1, 1941, p. 62.[95]

Type.—Senckenberg Mus. No. 9544, 1a.

Type locality.—Mexico.

Range.—Foothills of northern Veracruz, eastern Hidalgo, and extreme northeastern Puebla (known in Mexico from the states of Hidalgo, Puebla, and Veracruz).

*BOTHROPS SCHLEGELII (Berthold)

Trigonocephalus schlegelii BERTHOLD, Abh. Ges. Wiss. Göttingen, vol. 3, 1846, p. 13, pl. 1, figs. 5, 6.

Bothrops schlegeli JAN, Elenco sistematico degli Ofidi, 1863, p. 127.

Botriechis schlegelli (*sic*) TERRON, Anal. Inst. Biol. Mex., vol. 1, 1930, pp. 196–197, fig. 7.

Trimeresurus schlegelii SCHMIDT, Publ. Field Mus. Nat. Hist., zool. ser., vol. 22, 1941, p. 509.

Teleuraspis nigroadspersus GARMAN, Mem. Mus. Comp. Zool., vol. 8, 1883, pp. 126–127, 180.

Type.—Göttingen Mus. (?).

Type locality.—Colombia.

Range.—British Honduras and probably adjacent Mexico southward to Ecuador and Colombia (no definite records available from Mexico; its occurrence there is inferred by Garman's and Terron's "Mexico" records, and by the known occurrence of the species very nearby in British Honduras (Schmidt)).

BOTHROPS UNDULATUS (Jan)

Trigonocephalus (*Atropos*) *undulatus* JAN, Rev. Mag. Zool., 1859, p. 157, pl. E.

Bothrops undulatus GÜNTHER, Biologia Centrali-Americana, Rept. Amph., 1895, p. 187.

Trimeresurus undulatus MOCQUARD, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 17, 1909, pp. 946–947, pl. 77, fig. 1.—SMITH, Zoologica, vol. 26, part 1, 1941, p. 63.

Type.—Milan Mus.

Type locality.—Mexico.

Range.—High elevations in mountains of central western Veracruz, southward through central Oaxaca and northward in central Guerrero in the Sierra Madre del Sur (known only from Omilteme and Chilpancingo, *Guerrero;* Oaxaca, *Oaxaca;* Actopam and Orizaba, *Veracruz*).

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[95] Dr. Dunn informs us that in the light of recent discoveries his *picadoi* of Costa Rica cannot be considered a subspecies of *nummifer;* since this was the only presumed race of *nummifer* we revert to the binomial.

BOTHROPS YUCATANICUS (Smith)

Trimeresurus yucatanicus Smith, Zoologica, vol. 26, pt. 1, 1941, pp. 62–63.

Type.—U.S.N.M. No. 46571.

Type locality.—Chichen Itzá, Yucatán.

Range.—Northern and eastern portions of the Yucatán Peninsula (known in Mexico only from several localities in the state of Yucatán).

Genus CROTALUS Linnaeus

Crotalus Linnaeus, Systema naturae, ed. 10, vol. 1, 1758, p. 214.—Gloyd, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 79–249, pls. 6–31.

Uropsophus Wagler, Natürliches System der Amphibien . . . 1830, p. 176 (type, *U. triseriatus* Wagler).

Urocrotalon Fitzinger, Systema reptilium, 1843, p. 29 (type, *Crotalus durissus* Linnaeus).

Aploaspis Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 19, 1867, p. 310 (type, *Caudisona lepida* Kennicott).

Aechmophrys Coues, Wheeler's Rep. Geogr. Geol. Expl. Surv. W. 100th Mer., vol. 5, Zool., 1875, p. 609 (type, *Crotalus cerastes* Hallowell).

Haploaspis Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 35, 1883, p. 13 (emendation of *Aploaspis* Cope).

Genotype.—*Crotalus horridus* Linnaeus.

Range.—"North and South America and adjacent islands from southern Canada to northern Argentina and southern Brazil, exclusive of the tropical rain forests of the Amazon River and its tributaries." [96]

Species.—Forty-two species and subspecies; 32 occur in Mexico.

KEY TO MEXICAN FORMS OF CROTALUS [97]

1. Outer edges of supraoculars not extended into raised, pointed, or flexible hornlike processes ---------- 2

Outer edges of supraoculars conspicuously extended into raised, pointed, and flexible hornlike processes; dorsal scales strongly keeled and tuberculate; ground color usually cream, pale yellowish brown, or light gray; middorsal series of subquadrate brown blotches incompletely bordered with black ---------- cerastes laterorepens

2. Tip of snout and canthus rostralis not markedly raised into a sharp ridge; no median vertical light line on rostral and mental; markings on tail, if present, in transverse rings ---------- 3

Tip of snout and canthus rostralis raised into a sharp ridge; rostral and mental usually with a median vertical light line [98] on a reddish brown ground; tail pattern terminating in longitudinal stripes, not transverse bands ---------- willardi

3. Second supralabials in contact with chin shields; number of caudals less than 40 in males, 35 in females; rattles moderate to large (more than 3.5 mm. wide in adults); tail not extremely attenuated ---------- 4

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[96] Ranges of rattlesnakes in quotation marks are from Gloyd, *op. cit.*

[97] Adapted from Gloyd, *op. cit.*, pp. 20–30.

[98] Usually lacking in specimens from Mexico.

Second infralabials separated from chinshields by backward prolongations of the first infralabials; caudals in males more than 40, in females (probably) more than 35; rattles very small (less than 3.5 mm. in adults); tail conspicuously attenuated; a middorsal series of subrhombic blotches on a grayish brown ground ---------------- stejnegeri

4. Upper preoculars divided vertically, and the anterior section higher than the posterior and extended over the edge of the canthus rostralis in front of supraocular; body pattern of dark transverse bands less than 25 in number -- 4a

Upper preocular not as described, usually single; or, if divided, more than 25 dorsal blotches or indistinct cross bands on body -------------- 6

4a. Supraocular markedly elevated; dorsal spots 17 on body, not bandlike (except the extreme posterior), each 5 to 8 scale rows in width, most about as long as broad; caudals 20 in a male --------- semicornutus

Supraoculars normal; dorsal spots 14 to 23, all generally bandlike, much broader than long when visible; caudals in males over 20 -- 5

5. A dark stripe from orbit to angle of mouth; a pair of separate occipital blotches; body pattern of transversely expanded dark blotches or crossbands, interspaces frequently with secondary blotches or bands but little darker than ground color -------------------------- lepidus lepidus

Dark stripe from orbit to angle of mouth obsolete or absent; occipital blotches united; body pattern of conspicuous dark brown or black crossbands, interspaces greenish gray or bluish gray with small dark flecks or indistinct gray blotches ---------------------- lepidus klauberi

6. Lower anterior border of orbit separated from supralabials by one scale -- 7

Lower anterior border of orbit separated from supralabials by two or more scales -- 13

7. One upper loreal[90]; scale rows at midbody usually 23 or less ---------- 8

Two upper loreals; scale rows at midbody 27 or 25; upper margin of prenasals distinctly concave; head relatively long, narrow, and ornately marked; dorsal pattern of eight parallel series of circular or elliptical dark brown blotches (median pairs sometimes fused) - polystictus

8. No lower loreals, upper loreal in contact with labials or, if separated from labials, the interposed scales are those entering the pit and the nasal; posterior section of nasal in contact with one or two labials; scale rows 21–21–17 (15) --------------------------------------- 9

One to three lower loreals intervening between upper loreal and labials; posterior section of nasal not in contact with labials, or only with first labial; scale rows usually 23 or more anteriorly or medially, seldom 15 posteriorly --- 10

9. Ventrals 172 to 183, dorsal spots small, 51 to 60; lower preocular widely separated from loreal ------------------------------------ omiltemanus

Ventrals fewer; dorsal spots fewer; lower preocular (sometimes transversely divided) in contact with loreal or not ------------------------ 9a

9a. Nasal in contact only with first supralabial; loreal in contact with first and second supralabials; dorsal spots 42, median, subquadrangular - gloydi

Nasal in contact with first and second supralabials; loreal separated from supralabials; dorsal pattern of transverse bands or transverse rows of spots, typically none crossing the median line ---- transversus

10. Sixth or seventh supralabial below posterior edge of orbit; pattern of median blotches, but general color sometimes very dark or very light;

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[90] Scales lining anterior margin of pit are not regarded as loreals.

upper preocular frequently split transversely; scale rows generally 23 medially ---------- 11

Fifth supralabial below posterior edge of orbit; pattern of small, paired dorsal spots, sometimes fused medially; upper preocular seldom divided transversely; scale rows 21 medially ---------- 12

11. Body pattern of relatively large, subquadrate or four-parted spots, usually less than 40 in number ---------- triseriatus triseriatus

Body pattern of small circular or elliptical, single median spots, generally 40 or more in number [1] ---------- triseriatus anahuacus

12. Ventrals more than 150; general coloration usually gray; dorsal spots usually separate, in pairs ---------- triseriatus pricei

Ventrals less than 150; general coloration predominantly brown; dorsal pairs of spots often connected medially ---------- triseriatus miquihuanus

13. Top of head anterior to supraoculars and frontal region covered by symmetrical plates recognizable as paired internasals and prefrontals (or canthals), the total number usually four or six and rarely exceeding eight, if subdivision has occurred; loreals two or more; tail entirely black or dark gray with dark rings faintly visible and not in sharp contrast with ground color ---------- 14

Top of head anterior to supraoculars and frontal region covered by numerous small scales in irregular arrangement; tail rings usually distinct [2] and contrasting with ground color ---------- 18

14. A pair of dark vertebral stripes one to three scales wide on neck and extending one and one-half to five head lengths posteriorly ---------- durissus durissus

No paired dark vertebral stripes on neck; or if present, ill-defined and not extending as much as one and one-half head lengths before meeting first dorsal blotches ---------- 15

15. Tail usually entirely black in adults; muzzle and supraoculars uniformly dark, no sharply defined markings on snout ---------- 16

Tail gray, with darker cross bands usually evident; muzzle and supraoculars not uniformly dark, sometimes a distinct pattern on snout ---------- 17

16. Scale rows usually 27; body pattern of large dark brown or black rhombs, most of which are expanded at the sides and extended down sides as cross bands; blotches bordered by a row of light unicolored scales and often enclosing patches of light scales; ground color yellowish olive, light olive-green, or yellowish gray ---------- molossus molossus

Scale rows usually 25; body pattern of irregular diamond-shaped rhombs, closed laterally by light borders of unicolored scales, not extending down sides except posteriorly; ground color light brownish olive or yellowish olive, often obscured by black posteriorly ---------- molossus nigrescens

17. Body pattern of irregular diamond-shaped reddish brown rhombs, little lighter in the centers, and with light borders one scale wide, usually notched on posterior edges; dorsal head pattern usually indistinct (both head and body pattern sometimes obsolete in large adults); spinal ridge prominent; scales tuberculate, especially posteriorly ---------- basiliscus

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[1] In some specimens the pattern is indistinct; the general color may be very light or very dark.

[2] An exception to this is found in *enyo* in which the tail rings are indistinct and incomplete, but this course may be followed safely in the majority of cases if the scales anterior to the supraoculars are not in symmetrical arrangement and are more than 11 in number.

Body pattern of diamond-shaped brownish black rhombs, with light brown centers and yellowish white borders; posterior edges of blotches fairly even, not notched; dorsal head pattern distinct in adults and young, a conspicuous dark bar across prefrontal region; spinal ridge absent or inconspicuous; scale tubercules not pronounced-- durissus totonacus

18. Prenasals in contact with rostral; upper preoculars usually not divided-- 20

Prenasals usually separated from rostral by small scales or granules; upper preoculars often divided, horizontally, vertically, or both; rostral usually wider than high; a pattern of dorsal blotches essentially comprising aggregations of punctations---------------------------------- 19

19. Head smaller; length of head contained in body length (adults) more than 24 times; original rattle button, if present, more than 7.5 mm. wide; a pattern of dark gray or brown, punctated blotches on a gray or tan background------------------------------------ mitchellii mitchellii

Head larger; length of head contained in body length (adults) less than 24 times; original rattle button, if present, less than 7.5 mm. wide; a pattern of red, gray, brown, or black, punctated blotches on a cream, tan, buff, gray, pink, salmon, fawn, or brown background; often with posterior black tips on some dorsal scales between blotches-- mitchellii pyrrhus

20. Ground color of tail light ash gray or white, with distinct black rings, both in sharp contrast with the posterior body color, which may be gray, dark gray, cream, pink, red, reddish brown, or olive-brown------ 21

Ground color of tail essentially the same as that of body posteriorly; tail rings not in sharp contrast with color of body, or the proximal ones of same color as body blotches and the distal ones darker--------- 26

21. Dark tail rings approximately equal in width to light interspaces; postocular light stripe, if present, intersects supralabials one to three scales anterior to angle of mouth; minimum scales between supraoculars (counted in one transverse row) three or more; no definite line of demarcation between scales of frontal and prefrontal areas; proximal segment of rattle usually all black------------------------- 22

Dark tail rings narrower than light interspaces; postocular light stripe, if present, passing backward above angle of mouth; minimum scales between supraoculars rarely more than 2; a definite division line or suture between scales of frontal and prefrontal areas; lower half of proximal segment of rattle light in color, upper half black; a pattern of brown hexagons or diamonds on a green, olive-green, or brown background; light scales bordering dorsal blotches unicolor, the edges of the blotches usually following the scales and not cutting them.
scutulatus scutulatus

22. First infralabials usually not divided transversely (or if divided, general coloration not pink or reddish brown); general coloration cream, buff, gray, or grayish brown (sometimes pink or red in southern Arizona and southwestern New Mexico); dark punctations conspicuous in markings-- 23

First infralabials usually divided transversely; coloration pink, red, brick red, reddish brown, or olive-brown; dark punctations in markings weakly in evidence or absent-- 24

23. Upper preocular usually not in contact with postnasal, and no upper loreal present; head smaller in proportion to body; pattern of dark brown, punctated diamonds with lighter centers on a gray back-

ground, and with light borders of the diamonds often absent laterally-- tortugensis

Upper preocular usually in contact with postnasal, or such contact prevented by an upper loreal; head proportionally larger; pattern of brown diamonds consisting of aggregations of dark punctations on a cream, buff, gray, grayish brown, or (rarely) pinkish gray background -- atrox

24. Intergenials usually absent; prenasals generally in contact with first supralabials; dark tail rings complete, or broken only on middorsal line; adults exceed 900 mm. in length------------------------------- 25

A pair of intergenials usually present; generally no contact between prenasal and first supralabial; dark tail rings often broken laterally; size smaller, adults rarely exceeding 900 mm. in length; a pattern of red, circular, ill-defined blotches on a pink or pale red ground color------ exsul

25. General coloration pink, red, brick red, or reddish brown; usually no light areas within diamonds; light preocular stripe one or two scales wide (determined at second row of scales above supralabials, if scales are regular), dull and often obscure; supraocular light crossbars usually absent; a pattern of reddish brown, almost unicolor, diamonds on a pinkish brown ground color-- ruber

General coloration brown, olive-brown, or yellowish brown; light areas usually present within the diamonds; light preocular stripe three or more scales wide, bright and conspicuous; supraocular light crossbars usually in evidence; a pattern of brown or olive-brown blotches on a buff background--- lucasensis

26. More than two internasals (i. e., scales between nasals, and in contact with rostral, regardless of size or position)------------------------- 27

Two internasals-- 28

27. Light preocular stripe one scale wide below orbit; light postocular stripe one or one and one-half scales wide, usually clearly outlined; body blotches commonly subrectangular, with even edges and usually with a narrow light border------------------------------------ viridis viridis

Light preocular stripe, if present, two or more scales wide below orbit; light postocular stripe two or more scales wide, often indistinct or absent; body blotches, if in evidence, commonly diamonds, ellipses, or if rectangles, with edges rough or serrated, and often without narrow light borders------------------------------------- viridis oreganus

28. No distinct and evenly outlined supraocular cross bars curving forward inwardly; frontal area not conspicuously depressed------------------ 29

Distinct and evenly outlined light supraocular cross bars curving forward inwardly; outer edges of supraoculars raised above crown, forming a depression in frontal area (particularly evident in life); dorsal scales sharply keeled and tuberculate; spinal ridge evident; a pattern of dark brown blotches on a fawn background, usually with black in the lateral corners of the blotches at midbody; tail rings indistinct and incomplete-- enyo

29. Head and rattle of moderate size; length of head contained in total length (adults) less than 25 times; width of proximal rattle contained in length of head more than two and one-half times------------ 30

Head conspicuously small for a rattlesnake, and rattle relatively large; length of head contained in total length (adults) 25 times or more; width of proximal rattle contained in length of head less than two and one-half times; pattern of rather indistinct cross bands or narrow blotches formed by brown punctations on a pink, buff, or gray background ---------- tigris

30. Blotches of dorsal pattern bordered by a row of light unicolored scales; dark postorbital stripe extending backward to angle of mouth; proximal tail rings usually of same color as posterior body blotches, distal ones usually black; upper half of basal segment of rattle black, lower half light ---------- scutulatus scutulatus

Blotches of dorsal pattern without light borders; dark postorbital stripe not extending more than halfway to angle of mouth; tail rings all of same color as posterior body blotches, distal ones not black; basal segment of rattle without black on upper half ---------- scutulatus salvini

CROTALUS ATROX Baird and Girard

Crotalus atrox BAIRD and GIRARD, Catalogue of North American reptiles, 1853, pp. 5–6.—GLOYD, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 204–206, map 16, pl. 20, fig. 2.

Caudisona atrox sonoraensis KENNICOTT,[3] Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861, pp. 206–207 (type locality, "Sonora and vicinity"; no type).

Type.—U. S. N. M. No. 7761.

Type locality.—Indianola, Calhoun County, Tex.

Range.—"Desert, plains, and foothill areas from southeastern California to west-central Arkansas, south to central Mexico including: desert areas of Riverside, Imperial and extreme eastern San Diego Counties, Calif.; the southern tip of Nevada; western and southern Arizona (west and south of the Central Plateau); central and southern New Mexico; all of Texas west of Long. 95°, except the Panhandle; southern and west-central Oklahoma; western and central Arkansas; extreme northeastern Baja California; nearly all of Sonora, Chihuahua, Coahuila, Nuevo León, Tamaulipas, and San Luis Potosí [western Hidalgo[4]]; probably northeastern Durango and northern Zacatecas [possibly northern Veracruz]; Tiburón Island in the Gulf of California."[5]

CROTALUS BASILISCUS (Cope)

Caudisona bisilisca COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 16, 1864, p. 166.

Crotalus basiliscus COPE, *in* Yarrow, Wheeler's Rep. Geogr. Geol. Expl. Surv. W. 100th Mer., vol. 5, Zool., 1875, p. 532.—GLOYD, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 142–149, map 10, pl. 16, fig. 1.

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[3] Possibly represents a race distinct from other populations of the species.

[4] In Hidalgo it is known from Huaxteca Potosina and Tasquillo; Dugès's Zacatecas record (1869, 1877) was later (1896) referred to *scutulatus*.

[5] We believe, without being certain, that the Tehuantepec record (Hartweg and Oliver, Misc. Publ. Mus. Zool. Univ. Michigan, No. 47, 1940, pp. 29–30) rests upon some error or an accidental dispersal. Much subsequent work in that region has revealed no more specimens, and it may be added that the local residents, more than casually observant, recognize only one species (*d. durissus*). The very complete conformity of the specimens said to be from Tehuantepec with typical, northern specimens also throws great doubt upon the actual existence of a well-established population on the Isthmus. Woodbury and Woodbury (Journ. Washington Acad. Sci., vol. 34, 1944, p. 372) record another specimen from Tehuantepec. Rattlesnake distribution in Mexico is distinctly disturbing; unpublished records held by Kauffeld add other incomprehensible distributional data. As a means of explanation the agency of man in the production of these unusual records should not be underestimated.

Type.—U. S. N. M. No. 53586.

Type locality.—Colima.

Range.—The west coast from central Sinaloa to central Oaxaca (recorded from the states of Colima, Jalisco, Michoacán, Oaxaca, and Sinaloa; it may occur ["*Crotalus* sp."] on María Magdalena Island of the Tres Marías Islands; numerous other records for other states cannot be accepted).

CROTALUS CERASTES LATEROREPENS Klauber

Crotalus cerastes laterorepens Klauber, Trans. San Diego Soc. Nat. Hist., vol. 10, 1944, pp. 94–100, pl. 5, fig. 2, map.

Type.—L. M. Klauber Coll. (San Diego, Calif.) No. 34074.

Type locality.—The Narrows, San Diego County, Calif.

Range.—"The desert areas of central and eastern Riverside, northeastern San Diego, and Imperial counties in California; northeastern Lower California, Mexico, from San Francisquito bay north; northwestern Sonora, Mexico; and Yuma, Maricopa, Pinal and Pima counties, Arizona" (Klauber).

CROTALUS DURISSUS DURISSUS Linnaeus

Crotalus durissus Linnaeus, Systema naturae, ed. 10, vol. 1, 1758, p. 214.

Crotalus durissus durissus Klauber, Occ. Pap. San Diego Soc. Nat. Hist., No. 1, 1936, p. 4.—Gloyd, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 122–131, map 8, pl. 16, fig. 2.—Klauber, Bull. Zool. Soc. San Diego, No. 17, 1941, pp. 81–95.

Type.—Not known.

Type locality.—America.

Range.—"Southern Mexico, exclusive of the highlands of the Mexican Plateau, from central Michoacan through Guerrero and Oaxaca to Veracruz, Chiapas, Campeche, and Yucatan; the more arid regions of central America through Guatemala, Salvador, Honduras, the west coast of Nicaragua and Costa Rica" (recorded from the Mexican states of Campeche, Chiapas, Guerrero, Michoacán, Morelos, Oaxaca, Quintana Roo, Tabasco, Veracruz, and Yucatán; it may occur in the Balsas Basin of southwestern Puebla but has not been so recorded).

CROTALUS DURISSUS TOTONACUS Gloyd and Kauffeld

Crotalus totonacus Gloyd and Kauffeld, Bull. Chicago Acad. Sci., vol. 6, 1940, pp. 12–14, figs. 1, 2.—Gloyd, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 149–151, pl. 17.

Type.—Chicago Acad. Sci. No. 4469.

Type locality.—Panaco Island, near Cabo Rojo, Veracruz.

Range.—Known definitely only from the type locality.

CROTALUS ENYO (Cope)

Caudisona enyo Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861, p. 294.

Crotalus enyo Cope, U. S. Nat. Mus. Bull. 1, 1875, p. 33.—Gloyd, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, p. 225, map 19, pl. 27, fig. 2.

Type.—U. S. N. M. No. 5291 (two), Acad. Nat. Sci. Phila. No. 7059, cotypes.

Type locality.—Cape San Lucas, Baja California.

Range.—"Peninsula of Baja California from the Cape north to Lat. 30°; islands of San Francisco, Carmen, and Partida in the Gulf of California, and Margarita on the Pacific side."

CROTALUS EXSUL Garman

Crotalus exsul Garman, Mem. Mus. Comp. Zool., vol. 8, 1883, pp. 114, 174.—Klauber, Bull. Zool. Soc. San Diego, No. 6, 1930, pp. 2, 20, 48, maps 1, 2, pl. 6.—Gloyd, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, p. 208, map 16.

Type.—Mus. Comp. Zool. No. 652, two cotypes.

Type locality.—Cedros Island, Baja California.

Range.—The same.

CROTALUS GLOYDI Taylor[6]

Crotalus triseriatus gloydi Taylor, Univ. Kansas Sci. Bull., vol. 27, 1941, pp. 130–132, fig. 7.

Type.—E. H. Taylor-H. M. Smith Coll. No. 23645.

Type locality.—Cerro San Felipe, 10,000 feet, near Oaxaca, Oaxaca.

Range.—High elevations in central Oaxaca.

CROTALUS LEPIDUS LEPIDUS (Kennicott)

Caudisona lepida Kennicott, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861, p. 206.

Crotalus lepidus lepidus Gloyd, Occ. Pap. Mus. Zool. Univ. Michigan, No. 337, 1936, pp. 4–5, pl. 1, fig. 2; Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 104–109, map 7, pl. 11, fig. 12, fig. 1.

Crotalus (*tigris*) *palmeri* Garman, Bull. Essex Inst., vol. 19, 1887, pp. 124–125 (type locality, Monclova, Coahuila; type, Mus. Comp. Zool. No. 4578).

Type.—Lost.

Type locality.—Presidio del Norte and Eagle Pass, Tex.

Range.—"Western Texas, with the exception of the El Paso region, eastern Coahuila, Nuevo Leon, and northern San Luis Potosi" (recorded in Mexico only from Monclova, Sierra del Carmen, and Sierra de la Gloria, *Coahuila;* Ojo de Agua and Galeana, *Nuevo León*, and Charcas, *San Luis Potosí*).

CROTALUS LEPIDUS KLAUBERI Gloyd

Crotalus lepidus klauberi Gloyd, Occ. Pap. Mus. Zool. Univ. Michigan, No. 337, 1936, pp. 2–4, pl. 1, fig. 1; Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 109–115, map 7, pl. 11, fig. 2.

Type.—Mus. Zool. Univ. Mich. No. 79895.

Type locality.—Carr Canyon, Huachuca Mountains, Cochise County, Ariz.

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[6] See footnote, p. 196.

Range.—"The mountains of southeastern Arizona, west-central New Mexico, and El Paso County, Texas, and higher elevations on the Mexican Plateau in Chihuahua, Durango, Zacatecas, and Jalisco" (definite records are from the states of Chihuahua, Durango, Jalisco, and Zacatecas; its occurrence in Aguascalientes, Nayarit, and Sinaloa is possible or even probable, but no definite records from these states are available).

CROTALUS LUCASENSIS Van Denburgh

Crotalus lucasensis Van Denburgh, Proc. California Acad. Sci., ser. 4, vol. 10, 1920, pp. 29–30, pl. 3, fig. 1—Gloyd, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 208–209, map 16, pl. 21, fig. 2.

Type.—Calif. Acad. Sci. No. 45888.

Type locality.—Agua Caliente, Cape region, Baja California.

Range.—The southern part of the peninsula of Baja California from about latitude 26° N. (Loreto) to the Cape; the adjacent islands of Santa Margarita and San José.

CROTALUS MITCHELLII MITCHELLII (Cope)

Caudisona mitchellii Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861, p. 293.

Crotalus mitchellii mitchellii Klauber, Trans. San Diego Soc. Nat. Hist., vol. 8, 1936, pp. 154–157, fig. 1, map, pl. 19, fig. 1.

Type.—Lost; formerly U.S.N.M. No. 5291½.

Type locality.—Cape San Lucas, Baja California.

Range.—"Distrito del Sur of Baja California, intergrading with *C. m. pyrrhus* approximately along the border of the two districts; the Pacific island of Santa Margarita and the islands of Ceralvo, Espíritu Santo and San José, in the Gulf of California."

CROTALUS MITCHELLII PYRRHUS (Cope)

Caudisona pyrrha Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 18, 1866 (1867), p. 308.

Crotalus mitchellii pyrrhus Klauber, Trans. San Diego Soc. Nat. Hist., vol. 8, 1936, pp. 157–162, fig. 3, map, pl. 19, fig. 2, pl. 20, fig. 1.

Crotalus goldmani Schmidt, Bull. Amer. Mus. Nat. Hist., vol. 46, 1922, pp. 701–702 (type locality, El Piñon, 5300 feet, San Pedro Mártir Mountains, Baja California; type, U. S. N. M. No. 37573).

Type.—U. S. N. M. No. 6606.

Type locality.—Canon Prieto, Yavapai County, Ariz.

Range.—"Southern California, extreme southern Nevada, western Arizona, and Baja California, including the following: California south of the line Barstow-Ivanpah and east of the coastal plain and the San Gabriel Mountains; southern Clark County, Nevada; Arizona west of the line Peach Springs-Williams-Casa Grande-Ajo; extreme northwestern Sonora; Baja California south to the boundary of Distrito del Sur; Angel de la Guarda Island in the Gulf of California."

CROTALUS MOLOSSUS MOLOSSUS Baird and Girard

Crotalus molossus BAIRD and GIRARD, Catalogue of North American reptiles, 1853, p. 10.

Crotalus molossus molossus GLOYD, Occ. Pap. Mus. Zool. Univ. Michigan, No. 325, 1936, p. 2; Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 151–160, map 11, pl. 14.

Type.—U.S.N.M. No. 485.

Type locality.—Fort Webster, Santa Rita del Cobre, N. Mex.

Range.—"From the Grand Cañon, Arizona, and central New Mexico south through Sonora, Chihuahua, and western Texas to southern Coahuila and south-central Nuevo Leon; and on San Esteban Island in the Gulf of California" (recorded from the Mexican states of Chihuahua, Coahuila, Nuevo León, and Sonora).

CROTALUS MOLOSSUS NIGRESCENS Gloyd

Crotalus molossus nigrescens GLOYD, Occ. Pap. Mus. Zool. Univ. Michigan, No. 325, 1936, pp. 2–5; Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 161–168, map 11, pl. 15.

Type.—Mus. Zool. Univ. Mich. No. 77833.

Type locality.—Four miles west of La Colorada, Zacatecas.

Range.—"Throughout the Mexican highlands from southern Chihuahua, northern San Luis Potosi and southern Nuevo Leon south to northern Oaxaca and western Veracruz" (recorded from the states of Chihuahua, Durango, Guanajuato, Jalisco, Michoacán, Puebla, San Luis Potosí, Veracruz, and Zacatecas, and from Distrito Federal; it probably occurs in Aguascalientes, Hidalgo, México, Morelos, Querétaro, and Tlaxcala, but definite records from these states are not available).

CROTALUS OMILTEMANUS Günther[7]

Crotalus omiltemanus GÜNTHER, Biologia Centrali-Americana, Rept., 1895, pp. 192–193, pl. 58, fig. c.

Crotalus triseriatus omiltemanus KLAUBER, Copeia, 1938, No. 4, p. 196.—GLOYD, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 95–96, map 6, pl. 8.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Omilteme, Guerrero.

Range.—The Sierra Madre del Sur in central Guerrero.

CROTALUS POLYSTICTUS (Cope)

Caudisona polysticta COPE, Proc. Acad. Nat. Sci. Philadelphia, vol. 17, 1865, pp. 191–192.

Crotalus polystictus COPE, *in* Yarrow, Wheeler's Rep. Geogr. Geol. Expl. Surv. W. 100th Mer., vol. 5, 1875, p. 533.—GLOYD, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 226–232, map 20, pl. 28.

Crotalus lugubris multimaculata JAN, Iconographie générale des ophidiens, livr. 46, 1874, pl. 3, fig. 3 (type locality, Mexico; type, Westphal Coll. in Montpellier).

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[7] See footnote, p. 196.

Crotalus Jimenezii Dugès, La Naturaleza, vol. 4, 1877–8, p. 23, pl. 1, figs. 18–20 (type locality, Silao, Colima, and Guadalajara; type lost).

Type.—U. S. Nat. Mus.; lost.

Type locality.—Tableland of Mexico.

Range.—"The south-central portion of the Mexican Plateau from Jalisco, southern Zacatecas and Guanajuato to Puebla and western Veracruz" (definite reports, with specimens, are available from the states of Guanajuato, Jalisco, Veracruz, and Zacatecas; literature records are from Aguascalientes, Colima, Hidalgo, Morelos, Querétaro, and Tlaxcala, but none of these can be considered authentic until supported by specimens, for some are apparently guesses).

CROTALUS RUBER Cope

Crotalus adamanteus ruber Cope, Proc. U. S. Nat. Mus., vol. 14, 1892, p. 690.

Crotalus ruber Van Denburgh, Proc. California Acad. Sci., ser. 2, vol. 5, 1895, p. 1007.—Gloyd, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, p. 207, map 16, pl. 21, fig. 1.

Crotalus atrox elegans Schmidt, Bull. Amer. Mus. Nat. Hist., vol. 46, 1922, p. 699 (type locality, Ángel de la Guarda Island, Gulf of California; type, U.S.N.M. No. 64452).

Type.—U.S.N.M. No. 9209.

Type locality.—Not given; possibly southern California.

Range.—"From southeastern Los Angeles County, California, south approximately to Lat. 26° in Baja California, including: Orange County (except coastal plain), Riverside County (west of the desert), San Diego County, and extreme southwestern Imperial County; Baja California (excluding the deserts northeast of the Sierra Juárez and Sierra San Felipe), south to the vicinity of Comondu; the islands of Angel de la Guarda, Pond, South San Lorenzo, San Marcos, and Monserrate in the Gulf of California."

CROTALUS SCUTULATUS SCUTULATUS (Kennicott)

Caudisona scutulata Kennicott, Proc. Acad. Nat. Sci Philadelphia, vol. 13, 1861, pp. 207–208.

Crotalus scutulatus Klauber, Trans. San Diego Soc. Nat. Hist., vol. 6, 1930, pp. 117–123, map p. 137, pl. 12, fig. 1.

Crotalus scutulatus scutulatus Gloyd, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, p. 200, map 15, pl. 19.

Type.—None.

Type locality.—None.

Range.—"The Mojave Desert of California . . ., southern Nevada . . ., extreme southwestern Utah, the Colorado Desert and adjacent areas of the southwestern half of Arizona, southwestern New Mexico, Trans-Pecos Texas, and south on the Mexican Plateau to San Luis Potosi" (known in Mexico only from the states of Chihuahua, Coahuila, Durango, San Luis Potosí, Sonora, Tamaulipas, and Zacatecas).

CROTALUS SCUTULATUS SALVINI Günther

Crotalus salvini GÜNTHER, Biologia Centrali-Americana, Rept., 1895, pp. 193–194, pl. 59, fig. A.—TERRON, Mem. Soc. Cient. Ant. Alzate, vol. 39, 1921, pp. 188–189 (type locality restricted to Huamantla, Tlaxcala; type that of *C. salvini* Günther).

Crotalus scutulatus salvini GLOYD, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 201–202, map 15.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Huamantla, Tlaxcala.

Range.—Tlaxcala to southeastern Puebla (recorded from La Virgin and San Diego, *Puebla*, and Huamantla, *Tlaxcala*).

CROTALUS SEMICORNUTUS Taylor

Crotalus semicornutus TAYLOR, Univ. Kansas Sci. Bull., vol. 30, 1944, pp. 52–55, fig. 2, pl. 7.

Type.—E. H. Taylor–H. M. Smith Coll. No. 23014.

Type locality.—Mojarachic, Chihuahua.

Range.—Known only from the type locality.

CROTALUS STEJNEGERI Dunn

Crotalus stejnegeri DUNN, Proc. Biol. Soc. Washington, vol. 32, 1919, pp. 214–216.—GLOYD, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, p. 232, map 21, pl. 29.

Type.—U.S.N.M. No. 46486.

Type locality.—Plumosas, Sinaloa.

Range.—Mountains of southeastern Sinaloa and southwestern Durango (recorded only from the type locality and Ventanas, *Durango*).

CROTALUS TIGRIS Kennicott

Crotalus tigris KENNICOTT, *in* Baird, Report on the United States and Mexican boundary survey, vol. 2, 1859, Rept., p. 14, pl. 4.—GLOYD, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 223–224, map 19, pl. 27, fig. 1.

Type.—U.S.N.M. No. 471.

Type locality.—"Sierra Verde and Pozo Verde," Arizona-Sonora boundary near Sasabe, Ariz.

Range.—"Rocky foothills of mountains and their adjacent desert slopes in south-central Arizona and northeastern and central Sonora, from the vicinity of Phoenix, Arizona, to Guaymas on the gulf coastal plain of Sonora."

CROTALUS TORTUGENSIS Van Denburgh and Slevin

Crotalus tortugensis VAN DENBURGH and SLEVIN, Proc. California Acad. Sci., ser. 4, vol. 11, 1921, p. 398.—KLAUBER, Bull. Zool. Soc. San Diego, No. 6, 1930, pp. 2, 10, *et seq.*, 39, 46, maps 1, 2, pl. 6 (tail only).—GLOYD, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, p. 309, map 16.

Type.—Calif. Acad. Sci. No. 50515.

Type locality.—Tortuga Island, Gulf of California.

Range.—The same.

CROTALUS TRANSVERSUS Taylor

Crotalus transversus TAYLOR, Univ. Kansas Sci. Bull., vol. 30, 1944, pp. 47–52, fig. 1, pl. 6.

Type.—E. H. Taylor–H. M. Smith Coll. No. 30001.

Type locality.—Near Tres Cumbres (Tres Marías), Morelos, 55 km. southwest of Mexico City.

Range.—Known only from the vicinity of the type locality.

CROTALUS TRISERIATUS TRISERIATUS (Wagler) [8]

Uropsophus triseriatus WAGLER, Natürliches System der Amphibien, 1830, p. 176.

Crotalus triseriatus triseriatus KLAUBER, *in* Githens and George, Bull. Antiv. Inst. Amer., vol. 5, 1931, p. 33 (part).—GLOYD, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 84–91, map 6, pl. 6.

Type.—Berlin Mus.

Type locality.—Mexico.

Range.—"The south-central portion of the Mexican Plateau from Nayarit and southern San Luis Potosí through the states of Jalisco, northern Michoacan, Guanajuato, and Hidalgo" (recorded from the states of Guanajuato, Hidalgo, Jalisco, Michoacán, extreme western Morelos, Nayarit, and San Luis Potosí).

CROTALUS TRISERIATUS ANAHUACUS Gloyd

Crotalus triseriatus anahuacus GLOYD, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 91–95, map 6, pl. 7.

Type.—Mus. Comp. Zool. No. 33681.

Type locality.—Valley of Mexico.

Range.—"The southeastern part of the Mexican Plateau in the states of Mexico, the Federal District, Morelos, Puebla, and Veracruz."

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[8] We believe it very dubious that *pricei* and *miquihuanus* actually intergrade with *triseriatus* and *anahuacus;* uniformity of character and lack of concrete evidence of intergradation or overlapping character suggest that two species, *pricei and triseriatus,* actually are involved, each with two races (*p. pricei* and *p. miquihuanus; t. triseriatus* and *t. anahuacus*), as far as now known. It may be noted that Gloyd (*op. cit.*) knew of the existence of no actual intergrades. Nevertheless, we hesitate to substitute one guess for another without more evidence in its favor than we can now present.

The situation with respect to *gloydi* and *omiltemanus* is different. Recently acquired specimens demonstrate conclusively that these two forms belong to a group quite distinct from the described plateau forms; there is, moreover, a geographic overlap between the two groups that supports their specific segregation. Not only is the southern group specifically distinct from the northern, but in view of the ample differentiation of *gloydi* and *omiltemanus* we consider it inadvisable to consider one a subspecies of the other. Thus the forms now described may be segregated into a northern group of four races belonging to, probably, two species, and a southern group of two clearly distinct species. The geographic overlap of the groups is demonstrated by a species described by Taylor (*transversus*). Specimens gradually accumulating indicate that still other species and subspecies related to *triseriatus* remain to be defined in Mexico, but any sort of satisfactory and semipermanent arrangement will require much more material than we now have.

CROTALUS TRISERIATUS MIQUIHUANUS Gloyd

Crotalus triseriatus miquihuanus GLOYD, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 102–104, map 6, pl. 10.

Type.—Field Mus. Nat. Hist. No. 30850.

Type locality.—Cerro Potosí, near Galeana, Nuevo León.

Range.—The northern part of the Sierra Madre Oriental, in western Tamaulipas and southern Nuevo León.

CROTALUS TRISERIATUS PRICEI Van Denburgh

Crotalus pricei VAN DENBURGH, Proc. California Acad. Sci., ser. 2, vol 5, 1895, pp. 856–857.

Crotalus triseriatus pricei KLAUBER, *in* Githens and George, Bull. Antivenin Inst. Amer., vol. 5, 1931, p. 33.—GLOYD, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 97–101, map 6, pl. 9.

Type.—Stanford Univ. Mus. No. 1702.

Type locality.—Huachuca Mountains, Cochise County, Ariz.

Range.—The Chiricahua, Huachuca, and Santa Rita Mountains in Arizona; high mountains of western Chihuahua and Durango, eastern Sonora, and probably eastern Sinaloa.

CROTALUS VIRIDIS VIRIDIS (Rafinesque)

Crotalinus viridis RAFINESQUE, Amer. Month. Mag. and Crit. Rev., vol 4, 1818, p. 41.

Crotalus viridis viridis KLAUBER, Trans. San Diego Soc. Nat. Hist., vol. 8, 1936, p. 241, figs. 50, 52, 68, 85.—GLOYD, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 212–213, map 17, pl. 22.

Type.—None.

Type locality.—The prairies of Upper Missouri.

Range.—"The Great Plains region of North America from southeastern Alberta and southwestern Saskatchewan to northeastern Sonora, northern Chihuahua, [central Coahuila] and west-central Texas; from the Rocky Mountains eastward through the central portions of North and South Dakota and north-central Nebraska to extreme western Iowa, central Kansas, and western Oklahoma. Toward the west it has spread through gaps in the Rocky Mountains to eastern Idaho (Lemhi Valley), southeastern Utah, and northeastern Arizona" (known in Mexico only from Espia, *Chihuahua;* Múzquiz, *Coahuila;* and extreme northeastern "Sonora").

CROTALUS VIRIDIS OREGANUS Holbrook

Crotalus oreganus HOLBROOK, North American herpetology, vol. 4, 1840, p. 115, pl. 29.

Crotalus viridis oreganus KLAUBER, Trans. San Diego Soc. Nat. Hist., vol. 8, 1936, p. 243, figs. 51, 68, 90, 109, 110.—GLOYD, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 214–215, pls. 23–24.

Crotalus helleri Meek, Publ. Field Mus. Nat. Hist., zool. ser., vol 7, 1905, pp. 17–18, pl. 2 (type locality, San José, Baja California; type, Field Mus. Nat. Hist. No. 1272).

Type.—Acad. Nat. Sci. Phila. No. 7158.

Type locality.—"The banks of the Oregon or Columbia Rivers," probably between Walla Walla, Wash., and the Pacific Ocean.

Range.—"The Pacific slope from British Columbia to central Baja California including the following: the basins of the Fraser and Okanogan Rivers in south-central British Columbia, south of Lat. 51° and between Long. 119° and 122°; Washington east of the Cascade Mountains; the western edge of Idaho from Coeur d'Alene south to Lat. 44°; Oregon west of the line Upper Klamath Lake-Fort Rock-Burns-Council (this being the approximate line of intergradation with *lutosus*) but absent from northwestern Oregon west of the Cascades and from southwestern Oregon immediately contiguous to the coast; all of California west of the Sierra Nevada (including these mountains), but excluding a narrow coastal fringe in the extreme northwest and the entire desert (transmontane) areas of the southeast; the west coast and mountains of Baja California from the U. S. border south to Punta Maria (Lat. 29°); . . . The Pacific Coast islands—Morro Rock, Santa Catalina, and Los Coronados. . . . The central plateau of Arizona and adjacent areas: from the line Peach Springs-San Francisco Peak-Springerville south to the desert areas of the southwest; the mountains of extreme west-central New Mexico (Steeple Rock) and extreme northern Sonora" (in mainland Mexico recorded only from Río San Pedro and doubtfully from 20 miles southeast of Sasabe [Arizona], *Sonora*).

CROTALUS WILLARDI Meek

Crotalus willardi Meek, Publ. Field Mus. Nat. Hist., zool. ser., vol. 7, 1905, pp. 18–19, pl. 3.—Swarth, Copeia, 1921, p. 83.—Gloyd, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 234–236, map 21, pl. 30, fig. 2.

Type.—Field Mus. Nat. Hist. No. 902.

Type locality.—" 'Tombstone, Arizona', probably Ramsey Cañon, Huachuca Mountains, *fide* Swarth . . ."

Range.—"High elevations from the Santa Rita and Huachuca Mountains, Arizona, through the Sierra Tarahumari and Sierra Madre of eastern Sonora, western Chihuahua, Durango, and western Zacatecas."

Genus SISTRURUS Garman

Sistrurus Garman, Mem. Mus. Comp. Zool., vol. 8, 1883, pp. xxvii, 110, 118, 176.—Gloyd, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 31–79, maps 1–5, fig. 6 (generic revision).

Genotype.—*Crotalus miliarius* Linnaeus.

Range.—"From southeastern Arizona and the Valley of the Rio Grande northwestward to western New York and southern Ontario; . . . the lower Mississippi Valley and Gulf Coast, all of Florida and the Atlantic Coastal Plain northward into North Carolina, and a small area at the southern tip of the Mexican Plateau in the states of Puebla, Mexico, Hidalgo, Oaxaca, and Veracruz."

Species.—Six species and subspecies; only two occur in Mexico, one restricted.

KEY TO MEXICAN FORMS OF SISTRURUS[9]

1. Head with distinct markings or nearly all black; canthus rostralis distinct; rostral high, truncate at top; body blotches usually widened transversely, not conspicuously longer than wide ---- catenatus tergeminus

Head without distinct markings, uniform gray or stippled with brown; canthus rostralis not distinct; rostral low, tapering to a point as it curves backward between internasals; body blotches conspicuously longer than wide -- ravus

*SISTRURUS CATENATUS TERGEMINUS (Say)[10]

Crotalus tergeminus Say, Long's Expedition to the Rocky Mountains, vol. 1, 1823, p. 499.

Sistrurus catenatus tergeminus Klauber, Occ. Pap. San Diego Soc. Nat. Hist., No. 1, 1936, p. 6.—Gloyd, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 36–44, pl. 2, map 1.

Type.—Lost.

Type locality.—Indefinite.

Range.—"From southeastern Arizona, the Valley of the Rio Grande and the Gulf Coast of Texas, north through southeastern Colorado and central Oklahoma to eastern Kansas and southeastern Nebraska"; probably extreme northern Mexico, from Tamaulipas to Sonora.

SISTRURUS RAVUS (Cope)

Crotalus ravus Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 17, 1865, p. 191.

Sistrurus ravus Boulenger, Catalogue of the snakes in the British Museum, vol. 3, 1896, pp. 571–572.—Gloyd, Spec. Publ. Chicago Acad. Sci., No. 4, 1940, pp. 56–59, pl. 4, fig. 1, map 3.

Type.—U.S.N.M. Nos. 25050–1, cotypes.

Type locality.—"Table land of México."

Range.—Southern portion of the Mexican Plateau, central Hidalgo to central Oaxaca, central western Veracruz to Morelos (recorded from the states of México, Morelos, Oaxaca, Puebla, Tlaxcala, and Veracruz, and from Distrito Federal).

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[9] From Gloyd, *op. cit.*, pp. 20–21.

[10] Definite records of this race in Mexico are lacking; there are several vague Mexican records from Durango, Sinaloa, Sonora, and Tamaulipas (*cf.* Gloyd, *op. cit.*, p. 41, and Stejneger, Copeia, 1940, pp. 204–205; Jan, Elenco sistematico degli Ofidi, 1863, p. 124, and Iconographie générale des ophidiens, livr. 46, 1874, pl. 3, fig. 6; Martín del Campo, Anal. Inst. Biol. Mex., vol. 6, 1935, p. 295).

SPECIES INQUIRENDAE

ANOMALEPIS MEXICANUS Jan

Anomalepis mexicanus JAN, Iconographie générale, livr. 1, 1860, pl. 5, fig. 1.—TAYLOR, Proc. New England Zool. Club, vol. 17, 1939, pp. 93–94.—DUNN, Bull. Mus. Comp. Zool., vol. 87, 1941, pp. 511–526.

Type.—Milan Mus.

Type locality.—Stated "Mexico."

Remarks.—This snake is not definitely known from Mexico. Dunn believes that it is not a Mexican species or, in any event, that it is the same as specimens known from Panama and referred by Taylor to *A. dentatus.* Taylor regards the original description of *mexicanus* as unidentifiable with either of the two species (*A. dentatus* from Panama and *A. aspinosus* from Peru) now known.

DIPSAS BERTHOLDI (Jan)

Sibon Bertholdi JAN. Elenco sistematico degli Ofidi, 1863, p. 103; Iconographie générale des ophidiens, livr. 38, 1878, pl. 5, fig. 3.—BOULENGER, Catalogue of the snakes in the British Museum, vol. 3, 1896, p. 81.

Type.—Originally in Göttingen Museum, now lost.

Type locality.—Unknown.

Remarks.—This is possibly a Mexican species. It remains unknown save from Jan's descriptions.

ERYTHROLAMPRUS AESCULAPII (Linnaeus)

Coluber aesculapii LINNAEUS, Systema naturae, ed. 10, vol. 1, 1758, p. 220.

Erythrolamprus aesculapii DUMÉRIL, BIBRON, and DUMÉRIL, Erpétologie générale, vol. 7, pt. 2, 1854, pp. 845–850.

Erythrolamprus venustissimus var. D GÜNTHER, Catalogue of the snakes in the British Museum, 1858, pp. 47–48 (Mexico?).

Erythrolamprus venustissimus BOCOURT, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 10, 1886, pp. 658–660, pl. 38, fig. 4 ("Mexico").

Erythrolamprus bizona JAN, Arch. Zool. Anat. Fis., vol. 2, 1863, pp. 314–315 (type locality, "Mexico, Popayan, Cayenne, Brasil, Montevideo, Colombia"; types in various museums).

Erythrolamprus guentheri GARMAN, Mem. Mus. Comp. Zool., vol. 8, 1883, p. 154 (type locality, "Mexico"; type in Brit. Mus. Nat. Hist. [=*E. venustissimus* var. D Günther]).

Type.—Unknown.

Type locality.—Unknown.

Remarks.—The occurrence of *Erythrolamprus* in Mexico is yet to be verified, although numerous specimens of this its northernmost species are known from Nicaragua and other areas southward to Bolivia. North of Nicaragua no authentic records are known.

HELICOPS SCHISTOSUS (Daudin)

Tropidonotus dimidiatus Cope, Proc. Acad. Nat. Sci. Philadelphia, vol. 13, 1861, p. 297.

Regina dimidiata Cope, U. S. Nat. Mus. Bull. 32, 1887, p. 74.

Remarks.—Under this name Cope cites certain specimens obtained by Mr. Pease near Jalapa, Veracruz. Their identity cannot now be guessed or proved, for there are no descriptions and the specimens themselves are no longer in the Philadelphia Academy of Natural Sciences. If Cope properly identified them with *Tropidonotus dimidiatus* Boie, then according to Boulenger (Catalogue of the snakes in the British Museum, vol. 1, 1893, p. 274) they are referable to *Helicops schistosus* Daudin, of which Boie's name is considered a synonym. In such case it would follow that Cope's specimens bore incorrect locality data, since *schistosus* occurs in India, Ceylon, and the Malay Peninsula. But it is not by any means certain that Cope correctly identified the specimens, and in fact they lend some support to the belief that one or more species of true *Helicops* actually may occur in Mexico, although reliable records are now lacking.

HELICOPS SEPTEMVITTATUS (Fischer)

Calopisma septemvittatum Fischer, Verh. Naturw. Ver. Hamburg, ser. 2, vol. 3, 1879, p. 84, pl. 1, fig. 3.—Garman, Bull. Essex Inst., vol. 16, 1884, p. 25.

Hydrops septemvittatus Garman, Mem. Mus. Comp. Zool., vol. 8, 1883, p. 145.

Lemnophis septemvittata Cope, U. S. Nat. Mus. Bull. 32, 1887, p. 75.—Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 14, 1895, pp. 809–810, pl. 60, fig. 1.

Helicops septemvittatus Boulenger, Catalogue of the snakes in the British Museum, vol. 1, 1893, p. 275.—Günther, Biologia Centrali-Americana, Rept. Batr., 1894, p. 135.—Amaral, Mem. Inst. Butantan, vol. 4, 1929, p. 149.—Werner, Zool. Jahrb., vol. 57, 1929, p. 35.

Type.—Five cotypes, Hamburg Mus.

Type locality.—Mexico.

Remarks.—There is much doubt that the original series, comprising the only known specimens of the species, actually came from Mexico.

TROPIDODIPSAS ANNULIFERA Boulenger

Tropidodipsas annulifera Boulenger, Catalogue of the snakes in the British Museum, vol. 2, 1894, p. 297, pl. 14, fig. 1.

Type.—Brit. Mus. Nat. Hist.

Type locality.—Unknown.

Remarks.—Not impossibly a Mexican species. Amaral (Mem. Inst. Butantan, vol. 4, 1929, p. 193) thinks it a member of the genus *Sibynomorphus* (=*Dipsas* as here interpreted) and a synonym of *S. anthracops* (Cope), a Nicaraguan species. If actually a distinct species, it is known only from the type.

TYPHLOPS LONGISSIMUS (Duméril and Bibron)

Ophthalmidion longissimum Duméril and Bibron, Erpétologie générale, vol. 6, 1844, pp. 263-265.

Typhlops longissimus Bocourt, Mission scientifique au Mexique et dans l'Amérique centrale, Rept., livr. 8, 1882, p. 500, pl. 29, fig. 11.

Type.—Paris Museum.

Type locality.—"North America."

Remarks.—No further specimens of this species have been discovered in the century since its original description. It may well be Mexican.

TYPHLOPS PSITTACUS Werner

Typhlops psittacus Werner, Zool. Anz., vol. 26, 1903, pp. 248-249.—Taylor, Univ. Kansas Sci. Bull., vol. 26, 1939 (1940), pp. 443-444.

Type.—Brussels Museum.

Type locality.—"Mexico."

Remarks.—Like the preceding, the range of this species has remained unknown since its description. It is very probably not Mexican.

STATE LISTS

The following lists have been prepared from the data incorporated in the checklist. There are many literature records, not acceptable for the checklist, that should be considered by students of the faunas of political areas, for some of them, not now acceptable, can eventually be interpreted more or less definitely in the light of further collections. It is impossible to summarize all these accounts here. The lists that follow include only well-verified records published in recent or definitely acceptable works, and for which specimens presumably are available; records, published in older works, that are reasonably reliable and identifiable; and data from specimens examined by us.

All political areas are represented by one or more records. Arranged according to the number of species known from each, the subdivisions have the following sequence:

Veracruz	98	Chihuahua	43	Durango	28
Oaxaca	98	Coahuila	39	Campeche	25
Guerrero	71	Nuevo León	39	Guanajuato	25
Chiapas	70	Nayarit	39	Distrito Federal	21
Michoacán	64	Tamaulipas	39	Zacatecas	16
Baja California	56	Colima	36	México	14
Jalisco	54	Morelos	36	Quintana Roo	14
Puebla	52	Tabasco	34	Querétaro	5
San Luis Potosí	50	Hidalgo	31	Tlaxcala	4
Sonora	47	Sinaloa	29	Aguascalientes	1
Yucatán	47				

The fauna of Baja California is probably the best known of all. Those of Veracruz and Oaxaca are relatively well known; that fact, coupled with the very varied topography of these states, accounts for their extensive lists. Other states with nearly equally varied topography, but less well known, probably have more extensive faunas in proportion to those of Veracruz and Oaxaca than are now indicated. States toward the north, or in areas of little topographic variety, have relatively meager faunas. In general, the above sequence appears to be a true indication of the relative complexity of the state faunas, although, of course, many gaps remain to be filled, and there will undoubtedly be some shifting of position as faunas of the several areas become better known.

In these territorial compilations the faunas of islands have been ascribed to the state to which the island belongs. Among the less obvious of these are the Revillagigedos Islands, included with Colima; the Tres Marías and Isabel Islands, included with Nayarit; Patos, Pelican, San Esteban, San Pedro Mártir, San Pedro Nolasco, and Tiburón Islands, included with Sonora; Mujeres and Cozumel Islands, included with Quintana Roo. Other islands from which snakes are known belong to the state or territory to which they are most closely situated geographically.

AGUASCALIENTES

Pituophis deppei deppei

BAJA CALIFORNIA

Leptotyphlops humilis humilis
Leptotyphlops humilis cahuilae
Leptotyphlops humilis slevini
Lichanura roseofusca roseofusca
Lichanura trivirgata
Arizona elegans occidentalis
Chilomeniscus cinctus
Chilomeniscus stramineus stramineus
Chilomeniscus stramineus esterensis
Diadophis amabilis anthonyi
Diadophis amabilis similis
Elaphe rosaliae
Hypsiglena ochrorhyncha ochrorhyncha
Hypsiglena slevini
Lampropeltis californiae
Lampropeltis catalinensis
Lampropeltis getulus boylii
Lampropeltis getulus conjuncta
Lampropeltis getulus yumensis
Lampropeltis nitida
Lampropeltis zonata zonata
Lampropeltis zonata agalma
Lampropeltis zonata herrerae
Masticophis aurigulus
Masticophis barbouri
Masticophis flagellum piceus
Masticophis lateralis
Phyllorhynchus decurtatus decurtatus
Pituophis catenifer annectens
Pituophis catenifer deserticola
Pituophis vertebralis
Rhinocheilus lecontei lecontei
Salvadora hexalepis hexalepis
Salvadora hexalepis virgultea
Sonora bancroftae
Sonora mosaurei
Sonora semiannulata isozona
Sonora semiannulata linearis
Tantilla eiseni eiseni
Tantilla planiceps
Trimorphodon lyrophanes
Natrix valida
Thamnophis digueti
Thamnophis hammondii
Thamnophis ordinoides hueyi
Pelamis platurus
Crotalus atrox
Crotalus cerastes laterorepens
Crotalus enyo
Crotalus exsul
Crotalus lucasensis
Crotalus mitchellii mitchellii

Crotalus mitchellii pyrrhus
Crotalus ruber
Crotalus tortugensis
Crotalus viridis oreganus

CAMPECHE

Constrictor constrictor imperator
Coniophanes bipunctatus biseriatus
Coniophanes imperialis clavatus
Conophis lineatus concolor
Dipsas brevifacies
Drymobius margaritiferus margaritiferus
Elaphe flavirufa flavirufa
Ficimia publia
Imantodes cenchoa leucomelas
Imantodes splendidus luciodorsus
Imantodes tenuissimus
Leptodeira annulata polysticta
Leptodeira yucatanensis malleisi
Leptophis mexicanus mexicanus
Masticophis mentovarius mentovarius
Ninia sebae morleyi
Pliocercus elapoides schmidti
Sibon nebulatus
Spilotes pullatus mexicanus
Tretanorhinus nigroluteus lateralis
Tropidodipsas sartorii sartorii
Thamnophis sauritus chalceus
Micrurus affinis alienus
Bothrops atrox asper
Crotalus durissus durissus

CHIAPAS

Leptotyphlops phenops phenops
Constrictor constrictor imperator
Ungaliophis continentalis
Loxocemus bicolor
Scaphiodontophis albonuchalis
Adelphicos quadrivirgatus quadrivirgatus
Adelphicos quadrivirgatus sargii
Adelphicos quadrivirgatus visoninus
Adelphicos veraepacis nigrilatus
Amastridium sapperi
Clelia clelia clelia
Coniophanes bipunctatus biseriatus
Coniophanes fissidens punctigularis
Coniophanes imperalis clavatus
Conophis pulcher similis
Dryadophis melanolomus stuarti
Drymarchon corais melanurus
Drymarchon corais unicolor
Drymobius chloroticus
Drymobius margaritiferus margaritiferus
Drymobius margaritiferus occidentalis
Elaphe flavirufa matudai
Elaphe triaspis
Enulius sumichrasti
Enulius unicolor
Ficimia publia
Ficimia variegata
Geophis cancellatus
Geophis nasalis
Imantodes cenchoa leucomelas
Imantodes gemmistratus
Imantodes splendidus luciodorsus
Imantodes splendidus oliveri
Lampropeltis triangulum oligozona
Leptodeira annulata polysticta
Leptodeira maculata
Leptodeira yucatanensis malleisi
Leptophis mexicanus mexicanus
Masticophis mentovarius mentovarius
Ninia sebae sebae
Oxybelis acuminatus
Oxybelis fulgidus
Pituophis deppei lineaticollis
Pliocercus elapoides diastemus
Pseustes poecilonotus argus
Rhadinaea decorata
Rhadinaea lachrymans
Salvadora lemniscata
Sibon nebulatus
Spilotes pullatus mexicanus
Stenorrhina freminvillii lactea
Tantilla jani
Tantillita brevissima
Trimorphodon biscutatus biscutatus
Tropidodipsas sartorii annulatus
Xenodon mexicanus
Thamnophis sauritus chalceus
Thamnophis sumichrasti sumichrasti
Micrurus affinis apiatus
Micrurus latifasciatus
Micrurus nigrocinctus ovandoensis
Micrurus nigrocinctus zunilensis
Micrurus nuchalis nuchalis?
Agkistrodon bilineatus
Bothrops atrox asper
Bothrops bicolor

Bothrops godmani
Bothrops mexicanus
Bothrops nigroviridis aurifer
Crotalus durissus durissus

CHIHUAHUA

Arizona elegans occidentalis
Conopsis nasus
Diadophis regalis laetus
Elaphe chlorosoma
Elaphe laeta laeta
Heterodon nasicus kennerlyi
Hypsiglena ochrorhyncha ochrorhyncha
Lampropeltis getulus splendida
Lampropeltis knoblochi
Lampropeltis pyromelana
Masticophis bilineatus
Masticophis flagellum lineatulus
Masticophis taeniatus taeniatus
Masticophis taeniatus ornatus
Pituophis catenifer affinis
Pituophis catenifer sayi
Pituophis deppei deppei
Procinura aemula
Salvadora grahamiae
Salvadora hexalepis deserticola
Sonora semiannulata blanchardi
Tantilla nigriceps nigriceps
Tantilla wilcoxi wilcoxi
Tantilla yaquia
Trimorphodon upsilon
Trimorphodon vilkinsonii
Thamnophis eques cyrtopsis
Thamnophis macrostemma megalops
Thamnophis marciana
Thamnophis ordinoides errans
Thamnophis rufipunctatus
Thamnophis sirtalis parietalis
Micruroides euryxanthus
Micrurus diastema distans
Crotalus atrox
Crotalus lepidus klauberi
Crotalus molossus molossus
Crotalus molossus nigrescens
Crotalus scutulatus scutulatus
Crotalus semicornutus
Crotalus triseriatus pricei
Crotalus viridis viridis
Crotalus willardi

COAHUILA

Leptotyphlops humilis segregus
Leptotyphlops myopicus dissectus
Arizona elegans elegans
Drymarchon corais erebennus
Drymobius margaritiferus margaritiferus
Elaphe bairdi
Elaphe laeta laeta
Elaphe subocularis
Heterodon nasicus kennerlyi
Hypsiglena ochrorhyncha ochrorhyncha
Lampropeltis alterna
Lampropeltis triangulum annulata
Masticophis flagellum lineatulus
Masticophis flagellum testaceus
Masticophis taeniatus ornatus
Masticophis taeniatus schotti
Pituophis catenifer affinis
Pituophis catenifer sayi
Pituophis deppei deppei
Pituophis deppei jani
Rhinocheilus lecontei tessellatus
Salvadora grahamiae
Salvadora hexalepis deserticola
Salvadora lineata
Tantilla atriceps
Tantilla wilcoxi rubricata
Natrix erythrogaster transversa
Natrix rhombifera rhombifera
Thamnophis angustirostris
Thamnophis eques cyrtopsis
Thamnophis marciana
Thamnophis sauritus proximus
Thamnophis sirtalis parietalis
Micrurus fulvius tenere
Crotalus atrox
Crotalus lepidus lepidus
Crotalus molossus molossus
Crotalus scutulatus scutulatus
Crotalus viridis viridis

COLIMA

Leptotyphlops dugesii
Leptotyphlops phenops bakewelli
Constrictor constrictor imperator
Loxocemus sumichrasti
Clelia clelia immaculata
Coluber oaxaca

Conophis vittatus vittatus
Dipsas gaigeae
Dryadophis melanolomus stuarti
Drymarchon corais rubidus
Drymobius margaritiferus fistulosus
Elaphe chlorosoma
Geophis semiannulatus
Hypsiglena torquata
Lampropeltis triangulum nelsoni
Leptodeira annulata polysticta
Leptodeira bressoni
Leptodeira maculata
Manolepis putnami
Masticophis anthonyi
Masticophis bilineatus
Masticophis flagellum lineatus
Oxybelis acuminatus
Pseudoficimia frontalis
Rhadinaea hesperia hesperioides
Salvadora mexicana
Tantilla calamarina
Trimorphodon biscutatus semirutus
Tropidodipsas occidentalis
Tropidodipsas philippii
Natrix valida
Thamnophis melanogaster canescens
Micrurus diastema diastema
Pelamis platurus
Agkistrodon bilineatus
Crotalus basiliscus

DISTRITO FEDERAL

Conopsis biserialis
Conopsis nasus
Diadophis dugesii
Geophis bicolor ?
Lampropeltis triangulum arcifera
Pituophis deppei deppei
Rhadinaea laureata
Salvadora bairdii
Sonora michoacanensis mutabilis
Tantilla bocourti
Tantilla calamarina
Storeria storerioides
Storeria storerioides
Toluca lineata lineata
Thamnophis eques eques
Thamnophis macrostemma macrostemma
Thamnophis melanogaster melanogaster
Thamnophis scalaris scaliger
Micrurus fitzingeri fitzingeri
Crotalus molossus nigrescens
Crotalus triseriatus anahuacus
Sistrurus ravus

DURANGO

Constrictor constrictor imperator
Conopsis nasus
Elaphe laeta laeta
Heterodon nasicus kennerlyi
Hypsiglena ochrorhyncha ochrorhyncha
Hypsiglena torquata
Masticophis flagellum lineatulus
Masticophis taeniatus ornatus
Pituophis deppei deppei
Pseudoficimia frontalis ?
Rhadinaea laureata
Salvadora lineata
Trimorphodon upsilon
Natrix valida
Storeria storerioides
Thamnophis eques eques
Thamnophis eques cyrtopsis
Thamnophis macrostemma megalops
Thamnophis marciana
Thamnophis melanogaster canescens
Thamnophis ordinoides errans
Thamnophis rufipunctatus
Crotalus lepidus klauberi
Crotalus molossus nigrescens
Crotalus scutulatus scutulatus
Crotalus stejnegeri
Crotalus triseriatus pricei
Crotalus willardi

GUANAJUATO

Leptotyphlops dugesii ?
Conopsis nasus
Diadophis dugesii
Elaphe chlorosoma
Hypsiglena ochrorhyncha janii
Lampropeltis mexicana
Lampropeltis triangulum nelsoni
Masticophis flagellum lineatulus
Masticophis taeniatus australis
Pituophis deppei deppei
Salvadora bairdii
Tantilla bocourti
Toluca lineata lineata
Trimorphodon upsilon

Adelophis copei
Storeria hidalgoensis
Storeria storerioides
Thamnophis eques eques
Thamnophis macrostemma megalops
Thamnophis melanogaster canescens
Thamnophis scalaris scaliger
Micrurus fitzingeri fitzingeri
Crotalus molossus nigrescens
Crotalus polystictus
Crotalus triseriatus triseriatus

GUERRERO

Typhlops braminus
Leptotyphlops maximus
Leptotyphlops phenops bakewelli
Constrictor constrictor imperator
Loxocemus bicolor
Loxocemus sumichrasti
Coniophanes fissidens dispersus
Coniophanes lateritius
Conophis vittatus vittatus
Dryadophis melanolomus stuarti
Drymarchon corais rubidus
Drymobius margaritiferus fistulosus
Elaphe chlorosoma
Enulius unicolor
Ficimia publia
Ficimia ruspator
Geatractus tecpanecus
Geophis nasalis?
Geophis omiltemana
Imantodes gracillimus
Imantodes latistratus
Lampropeltis triangulum blanchardi
Leptodeira maculata
Leptodeira mystacina
Leptodeira smithi
Leptodeira splendida
Leptophis diplotropis diplotropis
Leptophis mexicanus mexicanus
Leptophis occidentalis praestans
Manolepis putnami
Masticophis flagellum lineatus
Masticophis mentovarius mentovarius
Oxybelis acuminatus
Pituophis deppei lineaticollis
Pseudoficimia frontalis
Pseudoficimia pulcherrima
Pseudoleptodeira latifasciata
Rhadinaea aemula
Rhadinaea hesperia hesperia
Rhadinaea hesperia baileyi
Rhadinaea omiltemana
Salvadora intermedia intermedia
Salvadora lemniscata
Salvadora mexicana
Sibon nebulatus
Sonora michoacanensis michoacanensis
Stenorrhina freminvillii freminvillii
Stenorrhina freminvillii lactea
Tantilla bocourti
Tantilla coronadoi
Tantilla martindelcampoi
Toluca conica
Trimorphodon biscutatus semirutus
Trimorphodon tau
Tropidodipsas guerreroensis
Xenodon mexicanus
Natrix valida
Storeria storerioides
Thamnophis chrysocephalus
Thamnophis eques eques
Thamnophis scalaris godmani
Micrurus browni
Micrurus diastema michoacanensis
Micrurus laticollaris
Micrurus nuchalis taylori
Pelamis platurus
Agkistrodon bilineatus
Bothrops barbouri
Bothrops undulatus
Crotalus durissus durissus
Crotalus omiltemanus

HIDALGO

Leptotyphlops dulcis
Diadophis dugesii
Drymarchon corais erebennus
Drymobius margaritiferus margaritiferus
Ficimia olivacea streckeri
Geophis mutitorques
Geophis semiannulatus
Geophis semidoliatus
Lampropeltis triangulum arcifera
Leptodeira annulata septentrionalis
Leptodeira maculata
Masticophis taeniatus australis
Ninia diademata plorator

Pituophis deppei jani
Rhadinaea crassa
Rhadinaea quinquelineata
Salvadora bairdii
Salvadora lineata
Toluca lineata lineata
Trimorphodon upsilon
Storeria dekayi texana
Storeria hidalgoensis
Thamnophis eques eques
Thamnophis macrostemma megalops
Thamnophis phenax halophilus
Thamnophis scalaris scalaris
Thamnophis sumichrasti sumichrasti
Micrurus bernadi
Bothrops nummifer
Crotalus atrox
Crotalus triseriatus triseriatus

JALISCO

Leptotyphlops dugesii
Leptotyphlops phenops bakewelli
Clelia clelia immaculata
Coniophanes lateritius
Conophis vittatus vittatus
Conopsis nasus
Diadophis dugesii
Drymarchon corais rubidus
Drymobius margaritiferus fistulosus
Elaphe chlorosoma
Geophis bicolor
Hypsiglena affinis
Imantodes latistratus
Lampropeltis triangulum nelsoni
Lampropeltis triangulum schmidti
Leptodeira annulata polysticta
Leptodeira maculata
Leptodeira punctata
Leptophis diplotropis diplotropis
Leptophis mexicanus mexicanus
Manolepis putnami
Masticophis bilineatus
Masticophis flagellum lineatus
Oxybelis acuminatus
Pituophis deppei deppei
Pseudoficimia frontalis
Rhadinaea hesperia hesperioides
Rhadinaea laureata
Rhadinaea taeniata
Rhinocheilus antonii antonii
Salvadora bairdii
Salvadora mexicana
Sonora michoacanensis mutabilis
Sympholis lippiens
Tantilla bocourti
Tantilla calamarina
Trimorphodon paucimaculatus?
Trimorphodon tau?
Trimorphodon upsilon
Adelophis copei
Storeria hidalgoensis
Storeria storerioides
Thamnophis eques eques
Thamnophis macrostemma macrostemma
Thamnophis melanogaster canescens
Thamnophis scalaris scaliger
Micrurus diastema distans
Pelamis platurus
Agkistrodon bilineatus
Crotalus basiliscus
Crotalus lepidus klauberi
Crotalus molossus nigrescens
Crotalus polystictus
Crotalus triseriatus triseriatus

MÉXICO

Conopsis biserialis
Conopsis nasus
Imantodes latistratus
Pituophis deppei deppei
Salvadora bairdii
Toluca lineata lineata
Storeria storerioides
Thamnophis eques eques
Thamnophis macrostemma macrostemma
Thamnophis melanogaster melanogaster
Thamnophis scalaris scalaris
Thamnophis scalaris scaliger
Crotalus triseriatus anahuacus
Sistrurus ravus

MICHOACÁN

Typhlops braminus
Leptotyphlops bressoni
Leptotyphlops phenops bakewelli
Constrictor constrictor imperator
Loxocemus sumichrasti
Coniophanes fissidens dispersus

Conophis vittatus vittatus
Conopsis biserialis
Conopsis nasus
Diadophis dugesii
Drymarchon corais rubidus
Drymobius margaritiferus fistulosus
Elaphe chlorosoma
Enulius unicolor
Geophis dugesii
Geophis maculiferus
Geophis petersii
Hypsiglena ochrorhyncha janii
Hypsiglena torquata
Imantodes latistratus
Lampropeltis ruthveni
Lampropeltis triangulum arcifera
Lampropeltis triangulum nelsoni
Leptodeira annulata polysticta
Leptodeira bressoni
Leptodeira maculata
Leptodeira smithi
Leptophis diplotropis diplotropis
Masticophis flagellum lineatulus?
Masticophis flagellum lineatus
Masticophis taeniatus australis
Oxybelis acuminatus
Pituophis deppei deppei
Pseudoficimia frontalis
Pseudoficimia pulcherrima
Pseudoleptodeira latifasciata
Rhadinaea hesperia hesperia
Rhadinaea laureata
Rhadinaea taeniata
Salvadora bairdii
Salvadora mexicana
Sonora michoacanensis michoacanensis
Tantilla bocourti
Tantilla calamarina
Toluca lineata lineata
Trimorphodon biscutatus semirutus
Trimorphodon fasciolata
Trimorphodon tau
Trimorphodon upsilon
Tropidodipsas guerreroensis?
Thamnophis eques eques
Thamnophis eques postremus
Thamnophis macrostemma macrostemma
Thamnophis melanogaster canescens
Thamnophis scalaris scaliger
Thamnophis vicinus
Micrurus diastema michoacanensis
Micrurus fitzingeri fitzingeri
Micrurus laticollaris
Agkistrodon bilineatus
Crotalus basiliscus
Crotalus durissus durissus
Crotalus molossus nigrescens
Crotalus triseriatus triseriatus

MORELOS

Leptotyphlops maximus
Loxocemus bicolor
Conophis vittatus vittatus
Conopsis biserialis
Drymarchon corais rubidus
Drymobius margaritiferus fistulosus
Enulius unicolor
Ficimia ruspator
Hypsiglena torquata
Imantodes latistratus
Lampropeltis triangulum arcifera
Leptodeira annulata polysticta
Leptodeira splendida
Masticophis flagellum lineatus
Pituophis deppei lineaticollis
Pseudoleptodeira latifasciata
Rhadinaea aemula
Rhadinaea hesperia hesperia
Rhadinaea laureata
Salvadora mexicana
Tantilla bocourti
Tantilla calamarina
Toluca lineata lineata
Trimorphodon biscutatus biscutatus
Trimorphodon latifascia
Adelophis copei
Storeria storerioides
Thamnophis eques eques
Thamnophis scalaris scalaris
Micrurus fitzingeri fitzingeri
Micrurus laticollaris
Crotalus durissus durissus
Crotalus transversus
Crotalus triseriatus triseriatus
Crotalus triseriatus anahuacus
Sistrurus ravus

NAYARIT

Constrictor constrictor imperator
Constrictor constrictor sigma
Diadophis dugesii
Dryadophis melanolomus slevini
Drymarchon corais cleofae
Drymobius margaritiferus fistulosus
Exelencophis nelsoni
Hypsiglena torquata
Imantodes gracillimus
Imantodes latistratus
Lampropeltis triangulum nelsoni
Lampropeltis triangulum schmidti
Leptodeira annulata polysticta
Leptodeira maculata
Leptophis diplotropis diplotropis
Leptophis diplotropis forreri
Leptophis mexicanus mexicanus
Manolepis putnami
Masticophis bilineatus
Masticophis flagellum lineatus
Masticophis flagellum variolosus
Oxybelis acuminatus
Pseudoficimia frontalis
Rhinocheilus antonii antonii
Salvadora bairdii
Salvadora mexicana
Sympholis lippiens
Tantilla bogerti
Tantilla calamarina
Trimorphodon paucimaculatus
Trimorphodon upsilon
Natrix valida
Thamnophis eques cyrtopsis
Thamnophis macrostemma macrostemma
Thamnophis melanogaster canescens
Micrurus diastema distans
Pelamis platurus
Agkistrodon bilineatus
Crotalus triseriatus triseriatus

NUEVO LEÓN

Leptotyphlops dulcis
Leptotyphlops myopicus myopicus
Amastridium sapperi?
Drymobius margaritiferus margaritiferus
Elaphe laeta laeta
Ficimia olivacea streckeri
Gyalopion canum
Hypsiglena ochrorhyncha ochrorhyncha
Lampropeltis leonis
Lampropeltis thayeri
Lampropeltis triangulum annulata
Leptodeira annulata septentrionalis
Masticophis flagellum testaceus
Masticophis taeniatus ruthveni
Opheodrys aestivus
Oxybelis acuminatus
Pituophis catenifer sayi
Pituophis deppei deppei
Pituophis deppei jani
Rhadinaea montana
Rhinocheilus lecontei tessellatus
Salvadora lineata
Sonora episcopa
Sonora taylori
Tantilla atriceps
Tantilla rubra
Tantilla wilcoxi rubricata
Natrix erythrogaster transversa
Natrix rhombifera rhombifera
Natrix rhombifera blanchardi
Storeria dekayi texana
Storeria hidalgoensis
Thamnophis marciana
Thamnophis sauritus proximus
Agkistrodon bilineatus
Crotalus atrox
Crotalus lepidus lepidus
Crotalus molossus molossus
Crotalus triseriatus miquihuanus

OAXACA

Leptotyphlops phenops phenops
Leptotyphlops phenops bakewelli
Constrictor constrictor imperator
Loxocemus bicolor
Loxocemus sumichrasti
Scaphiodontophis sumichrasti
Adelphicos quadrivirgatus quadrivirgatus
Clelia clelia clelia
Coluber oaxaca
Coniophanes fissidens dispersus
Coniophanes imperialis clavatus

Coniophanes imperialis copei
Coniophanes piceivittis
Conophis vittatus vittatus
Conophis vittatus viduus
Dendrophidion vinitor
Dipsas elegans
Dryadophis melanolomus tehuanae
Dryadophis melanolomus veraecrucis
Drymarchon corais melanurus
Drymarchon corais rubidus
Drymobius margaritiferus fistulosus
Elaphe chlorosoma
Elaphe flavirufa flavirufa
Enulius sumichrasti
Enulius unicolor
Ficimia olivacea olivacea
Ficimia publia
Ficimia variegata
Geagras redimitus
Geophis anocularis
Geophis dubius?
Geophis isthmicus
Geophis rostralis?
Geophis sallaei
Geophis semidoliatus
Imantodes cenchoa leucomelas
Imantodes splendidus oliveri
Lampropeltis triangulum arcifera?
Lampropeltis triangulum polyzona
Leptodeira annulata polysticta
Leptodeira maculata
Leptodeira mystacina
Leptophis diplotropis diplotropis
Leptophis mexicanus mexicanus
Manolepis putnami
Masticophis bilineatus
Masticophis mentovarius mentovarius
Ninia diademata diademata
Ninia sebae sebae
Oxybelis acuminatus
Oxybelis fulgidus
Pituophis deppei deppei?
Pituophis deppei lineaticollis
Pliocercus elapoides elapoides
Pliocercus elapoides diastemus
Pseudoleptodeira discolor
Pseustes poecilonotus argus
Rhadinaea aemula
Rhadinaea decorata
Rhadinaea vittata
Salvadora bogerti
Salvadora lemniscata
Sibon nebulatus
Spilotes pullatus mexicanus
Stenorrhina freminvillii freminvillii
Stenorrhina freminvillii apiata
Stenorrhina freminvillii lactea
Symphimus leucostomus
Tantilla jani
Tantilla phrenitica
Tantilla rubra
Tantilla striata
Toluca conica
Toluca megalodon
Trimorphodon biscutatus biscutatus
Trimorphodon tau
Tropidodipsas guerreroensis
Tropidodipsas macdougalli
Thamnophis chrysocephalus
Thamnophis eques eques
Thamnophis macrostemma macrostemma
Thamnophis ruthveni
Thamnophis sauritus chalceus
Thamnophis scalaris godmani
Micrurus affinis affinis
Micrurus affinis alienus
Micrurus ephippifer
Micrurus nuchalis nuchalis
Agkistrodon bilineatus
Bothrops atrox asper
Bothrops dunni
Bothrops undulatus
Crotalus atrox (introduced)
Crotalus basiliscus
Crotalus durissus durissus
Crotalus gloydi
Sistrurus ravus

PUEBLA

Leptotyphlops maximus?
Leptotyphlops myopicus myopicus
Constrictor constrictor imperator
Coniophanes lateritius
Drymarchon corais rubidus
Drymobius margaritiferus margaritiferus
Geophis blanchardi
Geophis mutitorques
Lampropeltis triangulum arcifera
Lampropeltis triangulum polyzona
Leptodeira annulata taylori
Leptodeira maculata
Leptodeira splendida

Leptophis mexicanus mexicanus
Oxybelis acuminatus
Pituophis deppei deppei
Pliocercus bicolor
Pliocercus elapoides elapoides
Pseudoleptodeira latifasciata
Rhadinaea decorata
Rhadinaea quinquelineata
Salvadora bairdii
Salvadora intermedia richardi
Salvadora mexicana
Tantilla bocourti
Tantilla calamarina
Tantilla morgani
Tantilla rubra
Toluca lineata lineata
Toluca lineata acuta
Toluca lineata varians
Toluca lineata wetmorei
Trimorphodon forbesi
Trimorphodon latifascia
Storeria dekayi temporalineata
Storeria storerioides
Thamnophis chrysocephalus
Thamnophis eques eques
Thamnophis macrostemma macrostemma
Thamnophis sauritus chalceus
Thamnophis scalaris scalaris
Thamnophis scalaris godmani
Thamnophis scalaris scaliger
Micrurus affinis affinis
Micrurus bernadi
Micrurus laticollaris
Bothrops melanurus
Bothrops nummifer
Crotalus molossus nigrescens
Crotalus scutulatus salvini
Crotalus triseriatus anahuacus
Sistrurus ravus

QUERÉTARO

Leptotyphlops phenops phenops
Elaphe chlorosoma
Elaphe flavirufa flavirufa
Leptodeira annulata septentrionalis
Masticophis flagellum lineatulus?

QUINTANA ROO[11]

Coniophanes imperialis clavatus
Coniophanes meridanus
Drymobius margaritiferus margaritiferus
Ficimia publia
Imantodes tenuissimus
Leptodeira annulata polysticta
Leptodeira yucatanensis yucatanensis
Leptophis mexicanus yucatanensis
Ninia sebae morleyi
Spilotes pullatus mexicanus
Thamnophis sauritus chalceus
Thamnophis sumichrasti praeocularis
Micrurus affinis mayensis
Crotalus durissus durissus

SAN LUIS POTOSÍ

Leptotyphlops humilis tenuiculus
Leptotyphlops myopicus myopicus
Constrictor constrictor imperator
Conopsis nasus
Diadophis regalis laetus
Drymarchon corais erebennus
Drymobius margaritiferus margaritiferus
Elaphe chlorosoma
Geophis latifrontalis
Heterodon nasicus kennerlyi
Hypsiglena ochrorhyncha ochrorhyncha
Hypsiglena ochrorhyncha janii
Lampropeltis mexicana
Leptodeira annulata septentrionalis
Leptodeira maculata
Leptophis mexicanus mexicanus
Masticophis flagellum lineatulus
Masticophis flagellum testaceus
Masticophis mentovarius mentovarius
Masticophis taeniatus australis
Masticophis taeniatus ruthveni
Oxybelis potosiensis
Pituophis deppei deppei

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[11] Because of the failure by some authorities in the past to recognize the Territory of Quintana Roo, and their division of its area between the two states of Campeche and Yucatán, a few records now ascribed to the latter state may apply more properly to Quintana Roo.

Pseustes poecilonotus argus
Rhadinaea crassa
Rhadinaea gaigeae
Salvadora lineata
Spilotes pullatus mexicanus
Tantilla atriceps
Tantilla deviatrix
Tantilla rubra
Tantilla wilcoxi rubricata
Toluca lineata lineata
Tropidodipsas sartorii sartorii
Natrix rhombifera blanchardi
Storeria dekayi texana
Storeria hidalgoensis
Storeria storerioides
Thamnophis eques cyrtopsis
Thamnophis macrostemma megalops
Thamnophis melanogaster canescens
Thamnophis sauritus proximus
Thamnophis scalaris scaliger
Micrurus fitzingeri microgalbineus
Bothrops atrox asper
Crotalus atrox
Crotalus lepidus lepidus
Crotalus molossus nigrescens
Crotalus scutulatus scutulatus
Crotalus triseriatus triseriatus

SINALOA

Leptotyphlops dugesii
Constrictor constrictor imperator
Drymarchon corais rubidus
Drymobius margaritiferus fistulosus
Geagras redimitus?
Gyalopion quadrangularis
Hypsiglena torquata
Lampropeltis triangulum nelsoni
Leptodeira ephippiata
Leptodeira maculata
Leptodeira punctata
Leptophis diplotropis diplotropis
Masticophis flagellum lineatus
Masticophis flagellum piceus
Oxybelis acuminatus
Pseudoficimia frontalis
Rhadinaea hesperia hesperioides
Rhinocheilus antonii antonii
Salvadora hexalepis celeris
Tantilla calamarina
Trimorphodon paucimaculatus
Tropidodipsas philippii
Natrix valida
Thamnophis eques eques
Micrurus diastema distans
Pelamis platurus
Agkistrodon bilineatus
Crotalus basiliscus
Crotalus stejnegeri

SONORA

Constrictor constrictor imperator
Lichanura roseofusca gracia
Arizona elegans occidentalis
Chilomeniscus cinctus
Chionactis occipitalis palarostris
Diadophis regalis laetus
Drymarchon corais rubidus
Drymobius margaritiferus fistulosus
Gyalopion desertorum
Heterodon nasicus nasicus
Heterodon nasicus kennerlyi?
Hypsiglena ochrorhyncha ochrorhyncha
Lampropeltis getulus splendida
Lampropeltis getulus yumensis
Lampropeltis pyromelana
Leptodeira ephippiata
Leptophis diplotropis diplotropis
Masticophis bilineatus
Masticophis flagellum lineatus
Masticophis flagellum piceus
Masticophis flagellum testaceus
Oxybelis acuminatus
Phyllorhynchus decurtatus nubilis
Pituophis catenifer affinis
Rhinocheilus antonii antonii
Rhinocheilus antonii clarus?
Salvadora grahamiae
Salvadora hexalepis hexalepis
Tantilla hobartsmithi
Trimorphodon lambda
Thamnophis eques cyrtopsis
Thamnophis macrostemma megalops
Thamnophis marciana
Micruroides euryxanthus
Micrurus diastema distans
Pelamis platurus
Agkistrodon bilineatus
Crotalus atrox
Crotalus cerastes laterorepens
Crotalus mitchellii pyrrhus
Crotalus molossus molossus
Crotalus scutulatus scutulatus

Crotalus tigris
Crotalus triseriatus pricei
Crotalus viridis viridis
Crotalus viridis oreganus
Crotalus willardi

TABASCO

Typhlops basimaculatus
Scaphiodontophis albonuchalis
Adelphicos quadrivirgatus visoninus
Clelia clelia clelia
Coniophanes fissidens fissidens
Coniophanes imperialis clavatus
Dendrophidion vinitor
Dipsas maxillaris
Dryadophis melanolomus veraecrucis
Drymarchon corais melanurus
Drymobius margaritiferus margaritiferus
Imantodes cenchoa leucomelas
Lampropeltis triangulum polyzona
Leptodeira annulata polysticta
Leptophis mexicanus mexicanus
Leptophis occidentalis praestans
Ninia diademata diademata
Ninia sebae sebae
Oxybelis acuminatus
Pliocercus elapoides elapoides
Pliocercus elapoides laticollaris
Pseustes poecilonotus argus
Sibon nebulatus
Spilotes pullatus mexicanus
Tropidodipsas sartorii sartorii
Xenodon mexicanus
Natrix rhombifera rhombifera
Thamnophis sauritus chalceus
Thamnophis sumichrasti sumichrasti
Micrurus affinis alienus
Micrurus elegans elegans
Bothrops atrox asper
Bothrops mexicanus
Crotalus durissus durissus

TAMAULIPAS

Leptotyphlops dulcis
Leptotyphlops myopicus myopicus
Constrictor constrictor imperator
Coluber constrictor stejnegeri
Coniophanes imperialis imperialis
Dryadophis melanolomus veraecrucis
Drymarchon corais erebennus
Drymobius margaritiferus margaritiferus
Elaphe flavirufa flavirufa
Elaphe laeta laeta
Heterodon nasicus kennerlyi
Hypsiglena dunklei
Lampropeltis thayeri
Lampropeltis triangulum annulata
Leptodeira annulata septentrionalis
Leptodeira maculata
Leptophis mexicanus mexicanus
Masticophis flagellum testaceus
Masticophis mentovarius mentovarius
Masticophis taeniatus ruthveni
Opheodrys aestivus
Oxybelis acuminatus
Pituophis catenifer sayi
Pituophis deppei jani
Pliocercus elapoides celatus
Salvadora lineata
Spilotes pullatus mexicanus
Tantilla nigriceps fumiceps
Natrix erythrogaster transversa
Natrix rhombifera blanchardi
Storeria dekayi texana
Thamnophis marciana
Thamnophis sauritus proximus
Thamnophis sirtalis parietalis
Micrurus fitzingeri microgalbineus
Micrurus fulvius tenere
Crotalus atrox
Crotalus scutulatus scutulatus
Crotalus triseriatus miquihuanus

TLAXCALA

Toluca lineata lineata
Thamnophis scalaris scaliger
Crotalus scutulatus salvini
Sistrurus ravus

VERACRUZ

Typhlops basimaculatus
Leptotyphlops myopicus myopicus
Leptotyphlops phenops phenops
Constrictor constrictor imperator
Scaphiodontophis albonuchalis
Scaphiodontophis cyclurus

Scaphiodontophis nothus
Adelphicos quadrivirgatus quadrivirgatus
Chersodromus liebmanni
Clelia clelia clelia
Coniophanes bipunctatus biseriatus
Coniophanes fissidens fissidens
Coniophanes fissidens proterops
Coniophanes imperialis imperialis
Coniophanes imperialis clavatus
Coniophanes quinquevittatus
Conophis lineatus lineatus
Dendrophidion vinitor
Diadophis dugesii
Dryadophis melanolomus veraecrucis
Drymarchon corais erebennus
Drymarchon corais melanurus
Drymarchon corais orizabensis
Drymobius chloroticus
Drymobius margaritiferus margaritiferus
Elaphe flavirufa flavirufa
Ficimia olivacea olivacea
Ficimia olivacea streckeri
Ficimia publia
Geophis blanchardi
Geophis chalybeus
Geophis dubius
Geophis longiceps
Geophis mutitorques
Geophis semidoliatus
Imantodes cenchoa leucomelas
Imantodes splendidus luciodorsus
Lampropeltis triangulum arcifera
Lampropeltis triangulum polyzona
Leptodeira annulata septentrionalis
Leptodeira annulata taylori
Leptodeira frenata
Leptodeira maculata
Leptophis mexicanus mexicanus
Leptophis occidentalis praestans
Masticophis mentovarius mentovarius
Ninia diademata diademata
Ninia sebae sebae
Oxybelis acuminatus
Oxyrhopus baileyi
Pituophis deppei deppei
Pituophis deppei lineaticollis
Pliocercus bicolor
Pliocercus elapoides elapoides
Pseustes poecilonotus argus
Rhadinaea decorata
Rhadinaea forbesi
Rhadinaea vittata
Rhadinella schistosa
Salvadora bairdii
Sibon nebulatus
Spilotes pullatus mexicanus
Stenorrhina degenhardtii mexicana
Stenorrhina freminvillii apiata
Tantilla bocourti
Tantilla miniata
Tantilla phrenitica
Toluca lineata varians
Toluca lineata wetmorei
Trimorphodon collaris
Tropidodipsas fasciata?
Tropidodipsas sartorii sartorii
Xenodon mexicanus
Natrix rhombifera blanchardi
Storeria dekayi temporalineata
Storeria dekayi anomala
Thamnophis chrysocephalus
Thamnophis eques eques
Thamnophis macrostemma macrostemma
Thamnophis melanogaster melanogaster
Thamnophis phenax phenax
Thamnophis phenax halophilus
Thamnophis sauritus chalceus
Thamnophis sauritus proximus
Thamnophis scalaris scalaris
Thamnophis scalaris godmani
Thamnophis sumichrasti sumichrasti
Micrurus affinis affinis
Micrurus elegans elegans
Bothrops atrox asper
Bothrops nummifer
Bothrops undulatus
Crotalus durissus durissus
Crotalus durissus totonacus
Crotalus molossus nigrescens
Crotalus polystictus
Crotalus triseriatus anahuacus
Sistrurus ravus

YUCATÁN

Typhlops microstomus
Leptotyphlops phenops phenops
Constrictor constrictor imperator
Clelia clelia clelia
Coniophanes imperialis clavatus
Coniophanes meridanus

Coniophanes schmidti
Conophis lineatus concolor
Dipsas brevifacies
Dipsas sanniolus
Dryadophis melanolomus melanolomus
Drymarchon corais melanurus
Drymobius margaritiferus margaritiferus
Elaphe flavirufa flavirufa
Elaphe triaspis
Ficimia publia
Imantodes splendidus splendidus
Imantodes tenuissimus
Lampropeltis triangulum blanchardi
Leptodeira annulata polysticta
Leptodeira yucatanensis yucatanensis
Leptodeira yucatanensis malleisi
Leptophis mexicanus yucatanensis
Leptophis occidentalis praestans
Masticophis mentovarius mentovarius
Ninia sebae morleyi
Opheodrys mayae
Oxybelis acuminatus
Oxybelis fulgidus
Pliocercus andrewsi
Pliocercus elapoides schmidti
Pseustes poecilonotus poecilonotus
Sibon nebulatus
Spilotes pullatus mexicanus
Stenorrhina freminvillii apiata
Tantilla canula
Tantilla cuniculator
Tantilla moesta
Tropidodipsas fasciata
Tropidodipsas sartorii sartorii
Thamnophis sauritus chalceus
Thamnophis sumichrasti praeocularis
Micrurus affinis mayensis
Agkistrodon bilineatus
Bothrops atrox asper
Bothrops yucatanicus
Crotalus durissus durissus

ZACATECAS

Conopsis nasus
Elaphe chlorosoma
Heterodon nasicus kennerlyi
Hypsiglena affinis
Lampropeltis triangulum nelsoni
Masticophis bilineatus
Masticophis taeniatus ornatus
Salvadora bairdii
Sonora michoacanensis mutabilis
Trimorphodon upsilon
Thamnophis eques eques
Crotalus lepidus klauberi
Crotalus molossus nigrescens
Crotalus polystictus
Crotalus scutulatus scutulatus
Crotalus willardi

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